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ABSTRACT

This report summarizes the development, testing, and dissemination of an instructional improvement program called Achievement Directed Leadership (ADL) during the period of National Institute of Education (NIE) funding for ADL, from late 1977 to late 1985. A brief introductory chapter discusses the context and rationale for the work on ADL, whose major purpose was to help school districts to understand, install, implement, and sustain practices that research suggests are conducive to effective instruction. The second chapter gives a brief overview of ADL, describing its major objectives: (1) to identify from the research a manageable number of variables that educators can influence and that are critical to student achievement; (2) to develop methods and materials to help educators monitor those variables; (3) to develop a plan for district-wide training and implementation of the monitoring and management processes; (4) to develop a means to support wide scale dissemination; and (5) to contribute to knowledge. The third chapter discusses the pros and cons of some of major issues related to instructional improvement through ADL, local use of ADL, and wider dissemination of ADL. The concluding chapter presents a closing statement on the instructional effectiveness issues, touching on the need for reflection on the ADL experience and summarizing its major messages as they relate to the creation of optimal classroom conditions and to maximizing the effectiveness of teachers' inservice. It is pointed out that the persistent, appropriate use of such innovations as ADL are likely to develop the needed understandings, images, intuitions and skills. References are included, along with appendixes listing (1) ADL-related reports, papers, and presentations, and (2) student achievement data from the three field test districts in Pennsylvania, New Jersey, and Delaware. (TE)

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PREFACE

This is the final report of a comprehensive program of instructional improvement called Achievement Directed Leadership (ADL). ADL was developed by the Basic Skills Component (BSC) of Research for Better Schools, Inc. (RBS) under the leadership of David Helms, Director of BSC, and Anna Graeber, Associate Director of BSC.

ADL has been the recipient of many thoughtful and creative contributions from many sources, including RBS's own managers and interested colleagues, cooperating agencies (e.g., the National Institute of Education), and expert consultants. Credit must also be given to all of the BSC staff who participated in the ADL effort over the years and who made their own valuable contributions to the project. And, without the advice, support, trust, and adventurous spirit of staff in the field test districts and the cooperating state education agencies (SEAs) and intermediate service agencies (ISAs), ADL would be but an untested idea.

Although the individuals and organizations to which we are indebted are too numerous to list, in Appendix A we acknowledge some key participants. John Hopkins, Executive Director of RBS, and John Connolly, Deputy Director, must start this list because they contributed the overall concept of the RBS mission in 1977 within which the development of ADL was but a part. Their specific contributions over the years to the project are also warmly appreciated, not the least of which has been their encouragement and moral support.

TABLE OF CONTENTS

Page

CHAPTER ONE: INTRODUCTION.......... 1

Project Context and Rationale.......... 1
Purpose, Scope, and Organization of the Report.......... 3

CHAPTER TWO: ACHIEVEMENT DIRECTED LEADERSHIP.......... 5

Variables Critical to Student Achievement.......... 6
The Improvement Cycle.......... 7
The Leadership Plan.......... 11
An Implementation Plan.......... 17
A Dissemination Plan.......... 23
Outcomes.......... 26

CHAPTER THREE: MAJOR ISSUES OF INSTRUCTIONAL IMPROVEMENT.......... 39

ADL as a Means for Improving Instructional Effectiveness.......... 40
Local Implementation of ADL.......... 52
Disseminating ADL.......... 68

CHAPTER FOUR: CLOSING STATEMENT.......... 77

REFERENCES.......... 81

Appendix A: Acknowledgments

Appendix B: Working Draft of "Achievement Directed Leadership: A Reflective Look" by Matthew B. Miles

Appendix C: Listing of Reports, Papers, and Presentations Documenting the Development, Testing, and Implementation Experiences of Achievement Directed Leadership

Appendix D: Summary of Student Achievement Data in the Pennsylvania, New Jersey, and Delaware Field Test Districts

CHAPTER ONE

INTRODUCTION

This report summarizes the significant outcomes achieved as well as the salient issues raised during the development, testing, and dissemination of an instructional improvement program which has come to be known as Achievement Directed Leadership (ADL). The report covers the period of National Institute of Education (NIE) funding for ADL, from late 1977 to late 1985. This introduction includes comments on the context and rationale for the work on ADL, along with an explanation of the purpose of the report and its organization.

Project Context and Rationale

By 1977, NIE had ceased funding development of large curriculum projects and instructional systems. This decision was based, in part, on evaluation data which consistently indicated that packaged instructional programs were not consistently effective. Their successes and failures seemed inextricably related to the local circumstances of their use, rather than to inherent approaches, structures, or mechanisms. At that time, the greater promise for improving instructional effectiveness appeared to be enhancement of the capability of local school districts to carry out their own initiatives for renewing and reforming instruction (Berman & McLaughlin, 1975; Wittrock, 1970).

This view was shared by Research for Better Schools, Inc. (RBS), and beginning in 1977 the laboratory committed itself to work collaboratively with education agencies to help elementary and secondary schools use research findings to improve their instructional programs. The Basic Skills Component (BSC) of RBS was given responsibility for pursuing the laboratory's mission in the basic skills area.

State and local education agencies were under increasing public pressure at the time to improve student achievement. Although the reasons offered for the failure of students to do better were legion, poor instruction seemed to be on everyone's list. Beleaguered officials resorted to measurement-based accountability systems to identify low achieving schools and their areas of weakness. Additional resources and assistance were to be directed to these schools to assist their efforts to improve instruction and to raise student achievement.

Implicit in these statewide school improvement programs was the assumption that once the areas of weakness were identified, educators would quickly discern their causes and take appropriate corrective actions to remove them. In truth, there was a lack of general understanding of the conditions and processes that make instruction effective, and there were no research-based procedures for diagnosing instructional weaknesses or for prescribing appropriate changes in practice. Indeed, there was little objective knowledge about instructional effectiveness upon which to formulate such procedures. The new classroom research offered the beginning of such a resource (e.g., Medley, 1977; Rosenshine, 1976).

However, research findings don't flow into practice quickly or correctly without assistance, and even planned assistance has not had a history of outstanding impact on practice. But, the educational reform era of the 1960s and 70s taught would-be reformers things about the pitfalls and promises of planned educational change, and these learnings could be a rich legacy for new reform efforts (e.g., Berman & McLaughlin, 1975; Fullan & Pomfret, 1977). Here, then, was a unique opportunity for BSC to pursue the laboratory's mission in the real world: we could assist educators to use the knowledge legacy on educational change to exploit important findings of research on instructional effectiveness for the improvement of their own instructional programs.

BSC reasoned that the effort would require: (1) a process for using the research findings to identify and repair weaknesses in instruction, (2) methods for implementing this process, and (3) dissemination techniques that do not subvert the integrity of the process. Meeting these three needs became major objectives for BSC. As progress would be made toward their accomplishment, the component expected to accrue new learnings about helping educators to use research findings to improve instructional effectiveness. Consequently, a fourth objective would be to contribute from this learning to the knowledge base on instructional effectiveness.

Purpose, Scope, and Organization of the Report

The purpose of this report is to distill from the BSC experience the significant issues, insights, and questions that are relevant for improving the instructional effectiveness of schools today. In an effort to reduce the impact of their own biases, the BSC authors (with the encouragement of NIE) invited Matthew B. Miles of the Center for Policy Research to provide an independent and expert perspective on ADL. A copy of his critique, "Achievement Directed Leadership: A Reflective Look," is presented in Appendix B. In this paper, Miles identifies many key issues, some to which we give special attention in Chapter Three.

The remainder of this report is divided into three chapters. The second chapter gives a brief overview of Achievement Directed Leadership. The third chapter discusses some major issues related to improving instructional effectiveness. The concluding chapter presents BSC's closing statement on the instructional effectiveness issues.

CHAPTER TWO

ACHIEVEMENT DIRECTED LEADERSHIP

It was always our intention that Achievement Directed Leadership (ADL) should be a multidimensional approach to the improvement of instruction. In addition to the growing research on instructional effectiveness, there were, at the beginning of our work, large and growing bodies of knowledge on educational change and inservice training, and emerging research findings on effective schools and school districts. We intended to tap these and other sources of knowledge for guidance in developing an effective research-based approach to improving instructional effectiveness. ADL, today, is the outcome of these intentions although the intentions themselves were much tempered by the experiences of development and testing in the real world of schools.

Development of ADL occurred in two distinct phases. The first phase covered the years 1977-1981 when we were mainly concerned with designing the overall approach and developing the core technology, i.e., the means of monitoring and managing critical classroom processes. The second phase spanned the years 1981-82 and was devoted mainly to putting the emerging elements together and, at the suggestion of a site review team from the National Institute of Education (NIE), subjecting the program as a whole to an intensive pilot test. The pilot or field test involved three school districts in the tri-state area served by RBS--one in Delaware, one in New Jersey, and a third district in Pennsylvania.

Our major tasks in the process of helping school districts to understand, install, implement, and sustain practices that research suggests are conducive to effective instruction were to: (1) identify from the research a manageable number of variables that educators can influence and that are critical to student achievement; (2) develop methods and materials to help educators monitor and manage those variables; (3) develop a plan for district-wide training and implementation of the monitoring and management processes; (4) develop a means to support wide scale dissemination; and (5) contribute to knowledge. The next four sections of this chapter describe objectives one through four. A final section presents the major outcomes of our efforts in terms of the objectives. One of these outcomes, our learnings, reappears in Chapter Three, as it relates to the major issues surrounding instructional effectiveness.

Variables Critical to Student Achievement

The component's review of research findings on classroom effectiveness indicated that students who have, or acquire, knowledge that helps them to successfully learn new content, and who spend more time covering, mastering, and reviewing content on which they will be tested, are more likely to perform better on year-end achievement tests than students who do not act this way.

Consequently, it was inferred that all educators should give special attention to the following student behaviors, or variables:

- Prior learning, knowledge possessed by students which will facilitate their learning of new subject matter (Bloom, 1976; Carroll, 1963)
- Student engaged time, amount of time students actually spend on assigned learning tasks (Anderson, 1981; Carroll, 1963; Fisher, Marliave, & Filby, 1979; Rosenshine, 1979; Stallings & Kaskowitz, 1974)

- Academic performance, success students experience with daily learning tasks, their mastery of curriculum units, and their review of content achievements (Block & Burns, 1976; Bloom, 1976; Crawford, 1978; Fisher, Marliave, & Filby, 1979)
- Coverage of criterion-relevant content, opportunity students have to learn the content on which they will be tested (Cooley & Leinhardt, 1980; English, 1980).

It was readily apparent early in the review of the research that these variables are interrelated, and exclusive attention by educators to one or another of the focus variables without due attention to all will not be fully beneficial. Furthermore, these four variables are, in turn, influenced by myriad other variables, and educators would need to consider this interrelatedness when planning classroom improvements. How the four focus and other variables are addressed by Achievement Directed Leadership is described in the discussion of the improvement cycle that follows.

Of course, classroom research includes important findings about things teachers do, too. But, we learned early that an initial emphasis on students' classroom behavior would be less threatening to teachers than immediate attention to their own classroom actions. Besides, it also makes good sense for teachers to adjust their classroom activities in response to the observed performance of their students. In short, teaching and instructional leadership are problem solving and decision-making activities, and this is the conviction which shaped the development of the classroom technology.

The Improvement Cycle

It is also the view of BSC that effective instructional decision-making and problem-solving must be tied to reasonably accurate estimates of the influences that affect instruction and to logical, research-based diagnoses for improving instructional effectiveness. BSC conceived the "improvement cycle" process to implement this view. The improvement cycle is a four-phase iterative process by which educators can identify and take advantage of opportunities to improve classroom instruction, variable by variable. Phases one and two of the improvement cycle are concerned with student classroom behaviors, while phases three and four deal primarily with teacher behaviors. The cycle is depicted graphically in Figure 1.

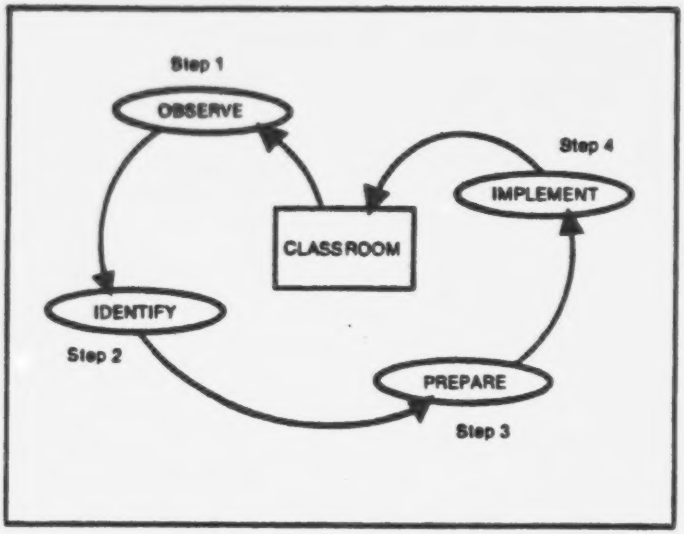


Figure 1. Four-step improvement cycle.

The following description illustrates how the improvement cycle is applied to one of the focus variables, student engaged time. A teacher, working with the principal or another educator, wants to assure that student engaged time is at a level conducive to high student achievement.

In phase one, the principal (or assisting teacher) collects data on engaged time in the teacher's classroom similar to the way data were collected in relevant research studies. By comparing these data with those of the research studies, the teacher and principal (or other assisting educator) determine in phase two whether an improvement opportunity exists.

If they find that student engaged time is already at an ideal level, they would not complete the remaining phases of the cycle, but instead would return to phase one, scheduling dates for subsequent data collection. If improvement is possible, in phase three they decide upon a strategy to effect the necessary change. During this phase the many other classroom variables that may indirectly affect student achievement through their impact on the targeted focus variable are also taken into account. For instance, the teacher observes the tendency of several students to regularly engage in distracting social activity. He or she then plans a new seating arrangement in hopes of reducing this distraction and raising the class's engaged time. After preparing to implement the classroom modification, the teacher proceeds to implement and monitor the change in phase four.

Instructional leaders are able to assess the effectiveness of the classroom modification by repeating phases one and two, wherein they collect and analyze new data after an appropriate interval of time has elapsed. For example, if the strategy has had little or no effect on students' engaged time, they would proceed to phases three and four again, adjusting the classroom modification or introducing a new modification as circumstances dictate.

The component hoped that educators would use the rather simple improvement cycle or problem solving strategy portrayed in Figure 1 not only to monitor and manage student behaviors targeted by research findings, but also to guide them in their critical leadership functions as teachers, principals, and central office staff. In other words, the problem solving strategy was intended to enhance the district's general capability to identify opportunities for instructional improvement, match improvement prescriptions to the opportunities, and monitor and evaluate the effects of the modifications. Thus, the goals were to implement a specific innovation and to learn a method of self-renewal and reform. In this sense, the project and NIE's Research and Development Utilization (RDU) project (Louis, Rosenblum, & Molitor, 1981) shared a goal of incorporating a problem solving process into school and district decision-making activities.

The classroom focus variables and the improvement cycle with its attendant instruments and data bases are the chief features of the classroom technology which emerged from our early collaborative development effort. BSC limited the scope of this effort to a classroom improvement technology, reduced the complexities of research application to a simple improvement cycle formula supported by simple instruments, and left the details of implementation to local resolution in order to enhance the transportability of the program. We focused training on the technical necessities of program implementation, designed it according to the findings of research on training effectiveness, and prepared it through several cycles of testing and revision to assure its practicality as well as its effectiveness.

The Leadership Plan

As the dates for the initial training of field test district staff approached, BSC staff and district leadership grew increasingly concerned about how to foster, sustain, and monitor use of the variables management process in the schools. These concerns prompted BSC to include in the training more information on implementation roles and activities and to provide materials and specify procedures to support these roles and activities. BSC specified the activities which central office staff, principals, and teachers would perform as they used the variables management process. BSC also specified the activities central office staff and principals need to engage in to support principals' and teachers' use of the improvement cycle. The roles and activities described became known as a "leadership plan." The plan was mainly extrapolated from the observed needs of teachers for principal support and from the observed needs of principals for central office support. In addition, the plan drew from the research on effective classrooms, schools, and districts and was designed to be compatible with staff roles in the traditional school district hierarchy (superintendents, principals, teachers). During the summer of 1981, the component selected the name Achievement Directed Leadership (ADL) for both the leadership plan and the training designed for its installation. The following three sections discuss how the leadership plan operates at the classroom, school, and district levels.

The Classroom Level

The leadership plan emphasizes the importance of the following teacher functions: planning classroom activities and procedures, managing the classroom, and delivering instruction. Since research indicates that students' achievement is vitally related to their classroom behaviors (i.e., the focus variables), the leadership plan calls for teachers to give these behaviors special attention by performing their role-related functions according to information supplied through the improvement cycle.

Figure 2 is a graphic representation of the leadership plan for the classroom level. As shown, students' classroom behaviors are significantly influenced by their entering behaviors, especially those which reflect their prior academic learning. According to the leadership plan, teachers take these entering behaviors into consideration as they plan instruction for students. This is represented in Figure 2 by the solid arrow connecting students' entering behaviors with the teacher. Furthermore, teachers use the improvement cycle to attend to all other classroom variables as they plan, manage the classroom, and give instruction. The arrow connecting teacher and classroom is double headed, however, to indicate that each influences the other. Finally, students' year-end achievement is directly related to their classroom behaviors. Figure 2 recognizes this, while also taking into account the relationship between students' entering behaviors and their year-end achievement.

Teaching in the classroom is a complex process, and it occurs in the context of larger and even more complex settings, the school and district, which frequently influence the conditions and processes of the classroom. The leadership plan calls for teachers to regularly cooperate with the principal and other teachers in planning for and implementing improvements at the school and district levels as well as for their respective classrooms.

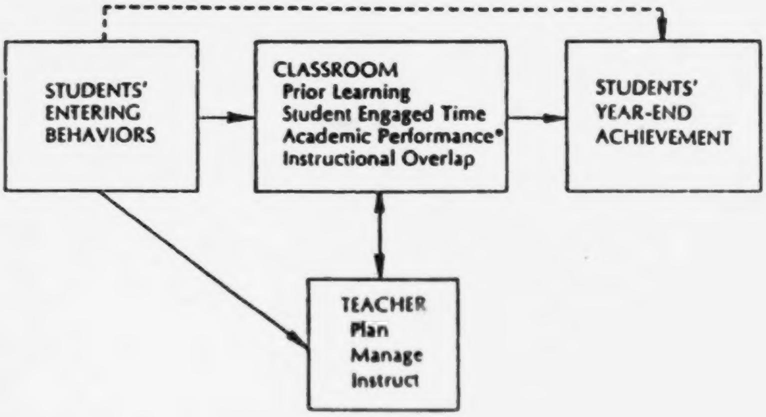

STUDENTS' ENTERING BEHAVIORS
CLASSROOM
Prior Learning
Student Engaged Time
Academic Performance*
Instructional Overlap
STUDENTS' YEAR-END ACHIEVEMENT
TEACHER
Plan
Manage
Instruct

Figure 2. The leadership plan: The classroom level.

The School Level

Although research had not yet made clear the relationship between principals' leadership and classroom instruction (Koehler, 1981), some research and the experience of the BSC and its project partners suggested that several kinds of principal support were needed to maintain at the classroom level the type of teacher attention to improvement described above. This support derives from principals' performance of the following functions: planning for and with teachers, training teachers, and providing participatory supervision to teachers.

These principal functions were intended to facilitate teachers' use of the improvement cycle and foster teacher growth. Figure 3 represents the use of the leadership plan at the school level, and shows the relationship of the principal to the teacher and classroom. The arrow from classroom to principal indicates that the principal is continually informed of classroom conditions and processes through regular classroom visits, teacher reports, and participatory supervision activities with the teacher in the use of the improvement cycle. The double-headed arrow connecting principal and teacher represents a two-way flow of information. This exchange of information occurs in regular principal/teacher conferences. The leadership plan calls for these conferences to be held frequently, and to include review of the classroom data on each focus variable.

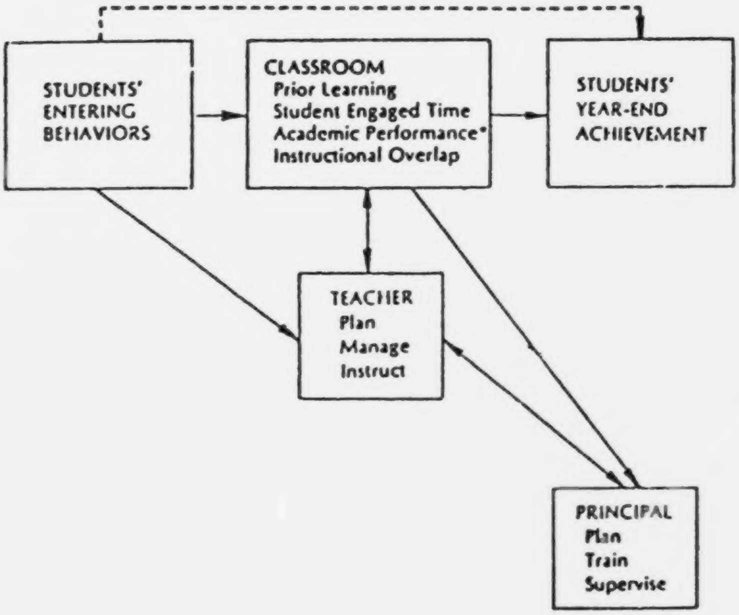

STUDENTS' ENTERING BEHAVIORS
CLASSROOM
Prior Learning
Student Engaged Time
Academic Performance*
Instructional Overlap
STUDENTS' YEAR-END ACHIEVEMENT
TEACHER
Plan
Manage
Instruct
PRINCIPAL
Plan
Train
Supervise

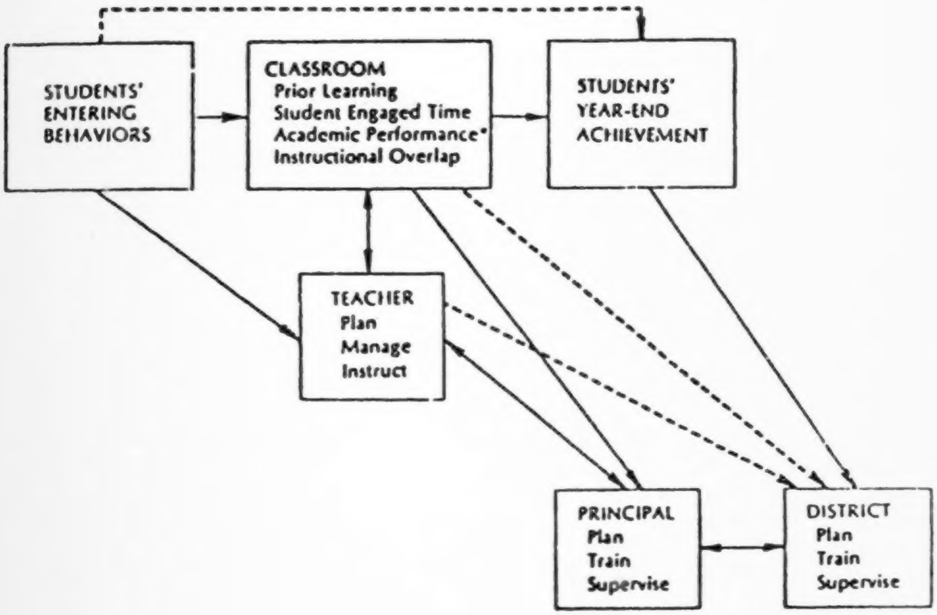
Figure 3. The leadership plan: The school level.

The District Level

Some research was available on the characteristics of effective districts and on the critical elements that contribute to a district's success in implementing planned change (e.g., Berman & McLaughlin, 1975; Pincus & Williams, 1979). However, research and documented knowledge had little specific to say about how these factors affect instructional leadership in schools and classrooms. It was the experience of the BSC and its partners that several kinds of central office support were needed to establish and sustain the kind of instructional leadership described above at the school and classroom levels.

The functions of central office staff are similar to those of principals, and are equally concerned with the classroom dimensions which affect student achievement. These functions, however, are primarily directed to the support of principals. The central office functions are: planning with principals, training principals to perform their role-related functions, and providing participatory supervision to principals. These central office functions are intended to facilitate efforts of principals to promote and support growth of teachers as instructional leaders.

Figure 4 depicts the relationship of district leadership to the principal, teacher, and classroom. The solid double-headed arrow between principal and district indicates a two-way flow of information. Although much of the communication will be informal, the principal and district leadership should also have formal conferences in which they review the documented outcomes of the principal's conferences with teachers. District leadership and the principal give explicit attention during their own conferences to the status of classrooms with respect to the focus variables and to teachers' plans for and success in improving instruction. During the conferences and throughout the year, the instructional leadership plan calls for the district leadership to be continually alert to opportunities to assist principals with the conduct of their own leadership responsibilities and functions. And, just as principals meet regularly with their teachers, so does the leadership plan call for district leadership (preferably the superintendent) to meet with principals in implementation seminars where they adopt a problem solving approach to the solution of their common problems and needs.


STUDENTS' ENTERING BEHAVIORS
CLASSROOM
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Student Engaged Time
Academic Performance*
Instructional Overlap
STUDENTS' YEAR-END ACHIEVEMENT
TEACHER
Plan
Manage
Instruct
PRINCIPAL
Plan
Train
Supervise
DISTRICT
Plan
Train
Supervise

Figure 4. The leadership plan: The district level.

20

The arrow from students' year-end achievement to the district indicates the importance of assessment data to central office staff. For example, during district/principal conferences, district leadership evaluates the classroom information compiled by the principal in terms of students' past achievement and district goals for student achievement in the current year.

Although the district relies primarily on the principals for information concerning schools and classrooms, district leadership may also acquire information directly through personal visits and reports. The arrows in Figure 4 from classroom and teacher to district leadership acknowledge this, and are broken to indicate that central office staff's visits to classrooms and with teachers are necessarily much less frequent than those of principals.

An Implementation Plan

When ADL was expanded to include explicit roles and functions (variables) for teachers, principals, and central office staff, the result entailed a much larger training obligation. Training in the use of the classroom technology was still required but now many more people needed to be proficient in the use of the technology and in training others to use it. Morever, instructional leaders needed to learn strategies and skills for providing assistance. Thus, ADL training focuses on the use of the classroom technology and the installation and maintenance of the leadership plan. Its primary thrust is preparation for training others in the interest of developing a district's capacity to sustain its own instructional improvement efforts.

Training in the use of the classroom technology is provided in two packages, Managing Instructional Time and Managing Instructional Content, and there are differentiated versions for principals and central office leaders as well as for teachers. Teachers and instructional leaders also receive training in the special functions related to their respective roles. Training in the leadership plan is not a brief intensive experience as is the initial training for management of the classroom variables. Rather, leadership plan training is an on-the-job, continuing experience in the solving of real problems associated with the implementation and institutionalization of Achievement Directed Leadership. ADL training was implicitly designed to incorporate research findings on training for change and improvement. Particular attention was given to Joyce and Showers' (1980) synthesis of inservice training research findings.

Figure 5 is an "ideal" training-and-implementation plan for installing the program in school districts. However, there are many installation options a district may choose. Note that references to "institutes" in 1, 2, 3, and 4 refer to the ADL dissemination strategy (see the following section, "A Dissemination Plan"). Training and implementation events in the figure are described as follows:

1. An Orientation to Achievement Directed Leadership is a 5½ hour presentation designed to provide an introduction to the program and the training institutes. Participants receive a brief description of student behaviors which research indicates may be most directly related to student achievement in mathematics and reading/language arts. Strategies and activities educators can use to exert positive influence on student use of classroom time and content coverage are also presented. At the conclusion of the session, a statement of understanding about the institute is explained and distributed for signatures by the superintendents of districts desiring to participate in the institute.

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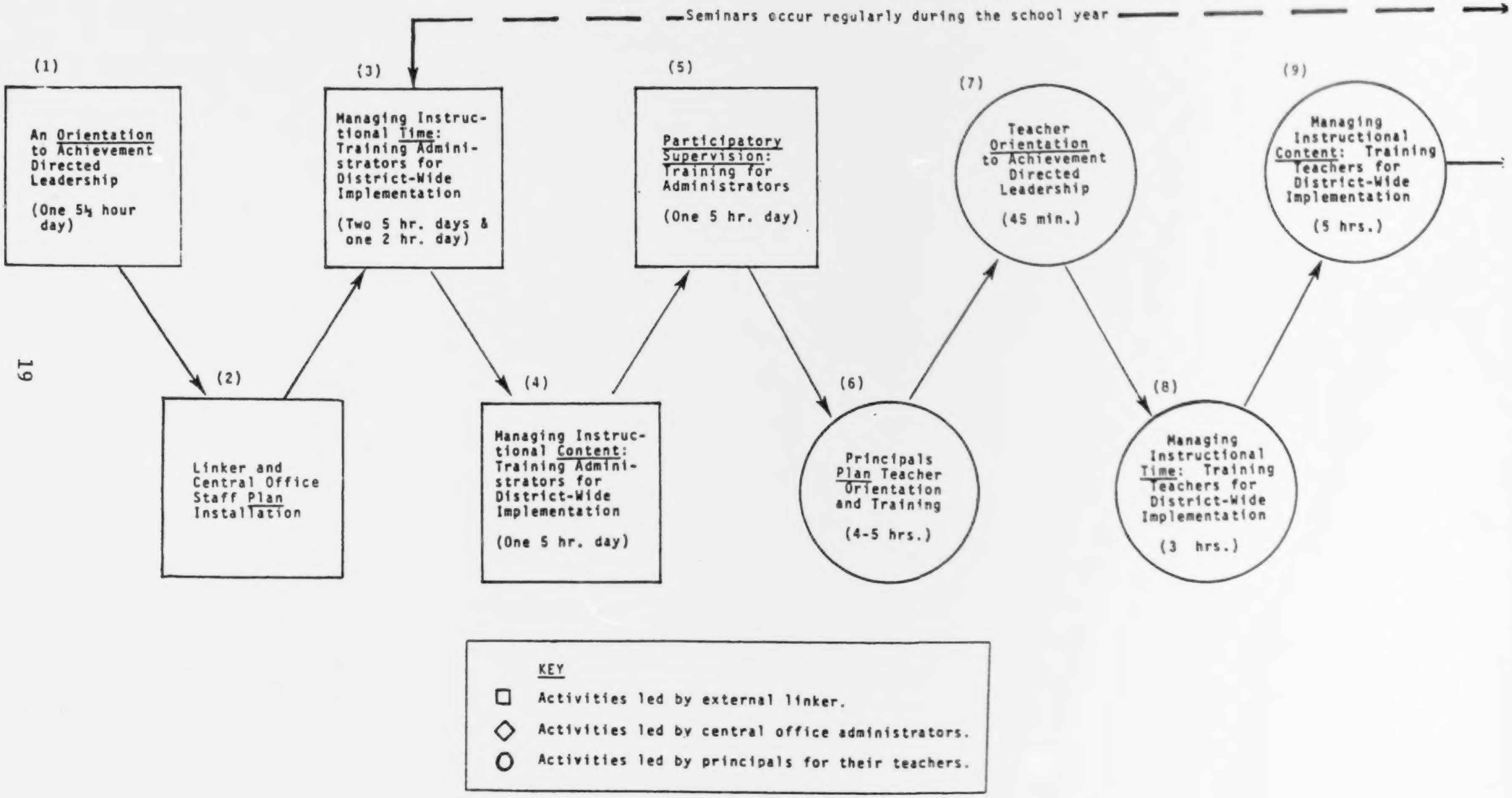
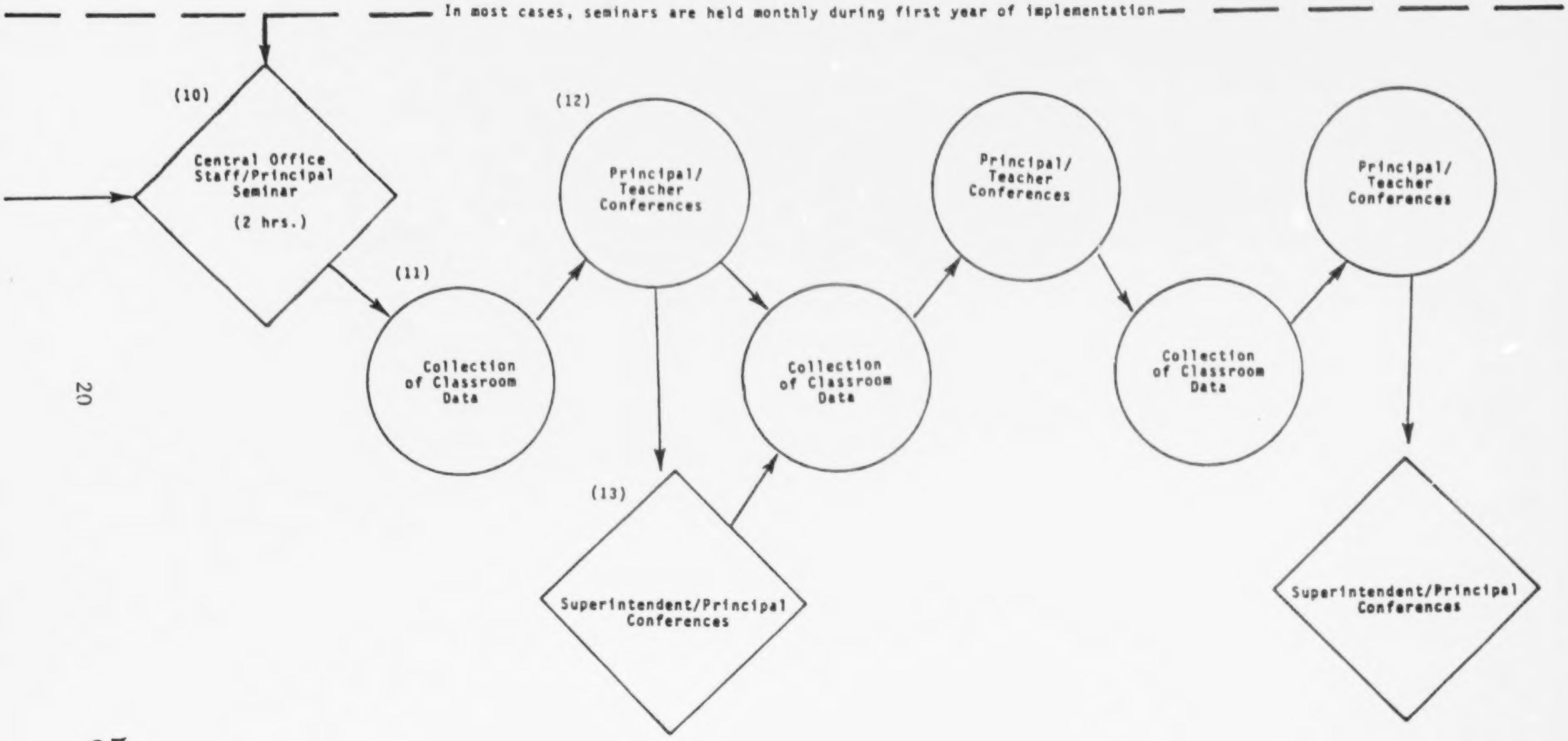

Seminars occur regularly during the school year
(1)
An Orientation to Achievement Directed Leadership
(One 5½ hour day)
(2)
Linker and Central Office Staff Plan Installation
(3)
Managing Instructional Time: Training Administrators for District-Wide Implementation
(Two 5 hr. days & one 2 hr. day)
(4)
Managing Instructional Content: Training Administrators for District-Wide Implementation
(One 5 hr. day)
(5)
Participatory Supervision: Training for Administrators
(One 5 hr. day)
(6)
Principals Plan Teacher Orientation and Training
(4-5 hrs.)
(7)
Teacher Orientation to Achievement Directed Leadership
(45 min.)
(8)
Managing Instructional Time: Training Teachers for District-Wide Implementation
(3 hrs.)
(9)
Managing Instructional Content: Training Teachers for District-Wide Implementation
(5 hrs.)
KEY
☐ Activities led by external linker.
◇ Activities led by central office administrators.
○ Activities led by principals for their teachers.

Figure 5. Achievement Directed Leadership: A plan for district-wide training and implementation.



In most cases, seminars are held monthly during first year of implementation
(10)
Central Office Staff/Principal Seminar
(2 hrs.)
(11)
Collection of Classroom Data
(12)
Principal/ Teacher Conferences
(13)
Superintendent/Principal Conferences
Collection of Classroom Data
Principal/ Teacher Conferences
Collection of Classroom Data
Principal/ Teacher Conferences
Superintendent/Principal Conferences

Figure 5 (continued)

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2. Linker and Central Office Staff Plan Installation occurs after the district has made the decision to implement. Decisions about the type of installation desired, and the 16roles and functions of various district personnel must be made. In addition, test data on student prior learning and the district's reading/language arts and math curricula must be collected and organized.

3. Managing Instructional Time: Training Administrators for District-Wide Implementation is a 12-hour workshop designed to provide central office and principals with knowledge, skills, and materials needed to implement the time management component. Participants learn to collect information on student engaged time and daily success rates, and to identify classrooms that have an opportunity to improve on these variables. They also learn to assist teachers in selecting, planning, implementing, and monitoring strategies for improving student engaged time and daily success. These sessions are usually conducted by RBS consultants.

4. Managing Instructional Content: Training Administrators for District-Wide Implementation is a 5-hour workshop designed to provide central office administrators and principals with the knowledge, skills, and materials needed to implement the content management component. Participants will acquire basic understanding of the research related to content management and skill in using the improvement cycle to assist their monitoring and management of instruction. On completion of this segment of the institute, participants will be able to prepare and monitor year-long instructional plans which meet the needs of students with respect to prior learning, coverage, mastery, and retention of criterion content. These sessions are usually conducted by an RBS consultant.

5. Participatory Supervision: Training for Administrators is a 5-hour training session in which central office administrators and principals discuss participatory supervision in general and practice analyzing data included on Principal/Teacher Conference Forms and Superintendent/Principal Conference Forms. This session is usually led by an RBS consultant.

6. Principals Plan Teacher Orientation and Training indicates that principals must plan to deliver an orientation presentation and two training sessions (viz., one time workshop and one content workshop) to teachers. Detailed planning for teacher sessions is the responsibility of the district.

7. Teacher Orientation to Achievement Directed Leadership is a 45 minute presentation designed to introduce teachers to the Achievement Directed Leadership approach to improving basic

skills instruction. This presentation is delivered by building principals to their teachers.

8. Managing Instructional Time: Training Teachers for a District-Wide Implementation is a 3-hour session designed to provide teachers with the knowledge, skills, and materials they will need to implement the time management component. Specifically, this workshop provides teachers with an understanding of the importance and meaning of student engaged time and an increased awareness of student classroom behaviors. It also emphasizes strategies teachers can use to influence student daily success rates, engagement rates, and allocated time. The session is delivered by principals to teachers in their buildings.

9. Managing Instructional Content: Training Teachers for a District-Wide Implementation is a 5-hour session designed to provide teachers with the knowledge, skills, and materials they will need to implement the content management component. Specifically, this workshop provides teachers with not only an understanding of the importance of content coverage and prior learning, but also with the knowledge of strategies for planning basic skills instruction to attend to these two critical classroom variables. Teachers will work with achievement data for their current classes and will modify the locally developed School Year Planning Guide.

10. Central Office Staff/Principal Seminars are meetings held each month. The purposes of these seminars are to coordinate the district-wide implementation and to address any problems associated with the instructional improvement effort.

11. Collection of Classroom Data occurs periodically throughout the school year. Typically, the principal collects information about critical classroom variables through observations of the classroom and review of the teacher's instructional plans. These data are subsequently discussed and analyzed in a principal/teacher conference. It is recommended that the data collection process begin as early in the school year as possible and that this information be collected at least three times during the year. Principals should observe and review plans of teachers who need special help more frequently than those who do not need the help.

12. Principal/Teacher Conferences follow each round of observations. A primary outcome of the conference is a course of action agreed to by the principal and teacher and designed to capitalize on the identified opportunities for instructional improvement. Another critical outcome is a plan for improving the teacher's instructional leadership. To facilitate the discussion of the classroom variables, use of a conference form is recommended.

13. Superintendent/Principal Conference are private conferences between the superintendent and each principal. The major purposes of these meetings are to: (1) focus on improvement opportunities at the building level and to coordinate improvement goals and inservice programs across the district, and (2) to plan improvements in the principal's instructional leadership. These conferences should occur at least twice a year and they should cover all items on the sample Superintendent/Principal Conference Form.

A Dissemination Plan

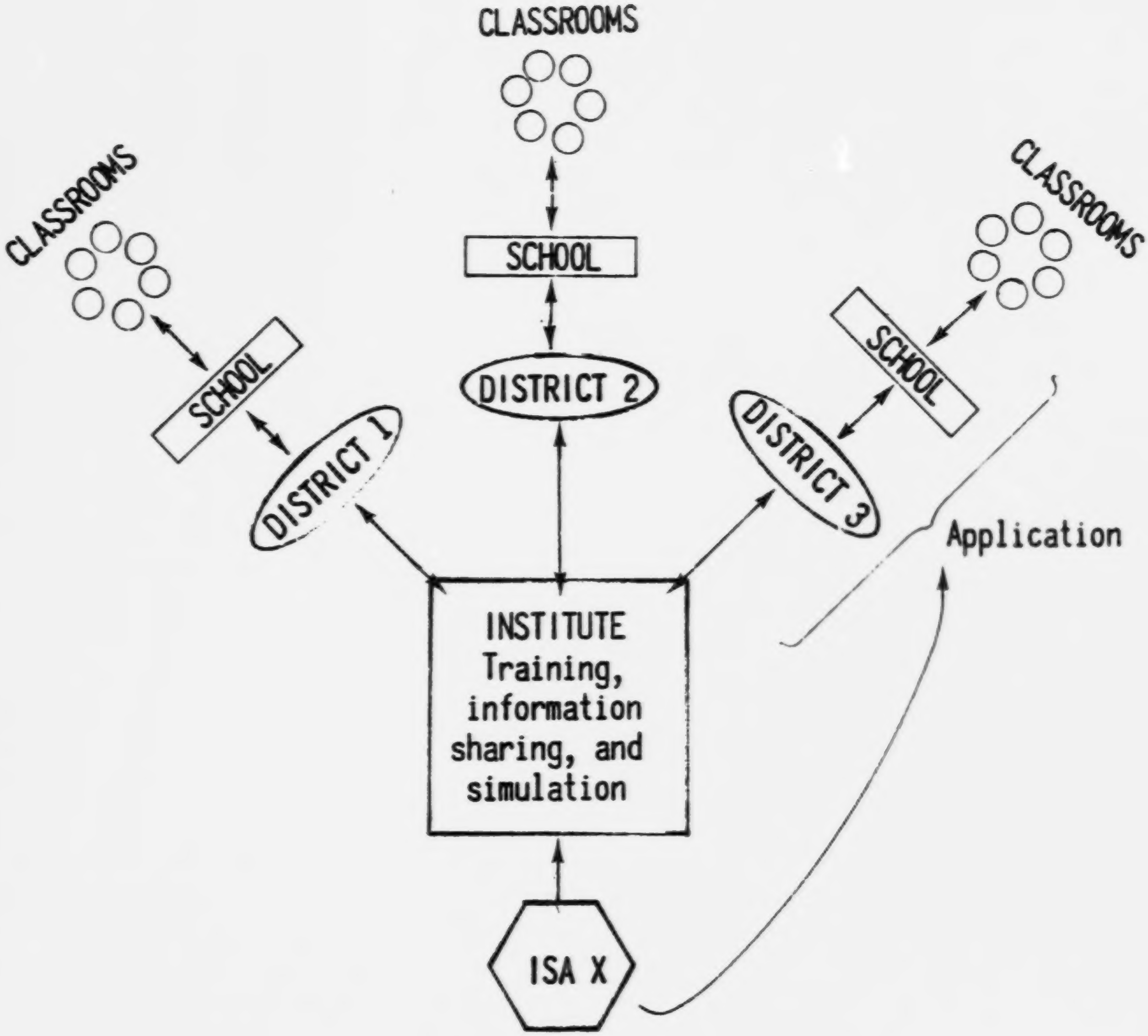
However potent an instructional innovation may prove to be, its ultimate worth must be measured in terms of its impact (on professional practice and student achievement) and its cost effectiveness. Two challenges to any planned effort of widescale educational improvement are: (1) finding special funds to support training and implementation costs, and (2) supporting the training and implementation with available time and resources to ensure the intended improvements.

It is unrealistic to expect that governments will supply continuous funding for the support of local improvement programs. The tendency in the past for externally supported programs to disappear when special funding ceased (Berman & McLaughlin, 1975) makes it unlikely that governments will continue to provide substantial aid for start-up training, let alone implementation support. Therefore, BSC conceived of a dissemination strategy which integrates ADL training and implementation support with the plans and activities of existing agencies which typically have major responsibility for dissemination of educational innovations, i.e., state education agencies (SEAs) and intermediate service agencies (ISAs). This strategy can benefit the dissemination agencies as well as school districts in cases where ADL is a substantial addition to the stock of imporvement services offered to school districts by such agencies.

The principal feature of the dissemination strategy is the training/implementation institute (see Figure 6). Institutes are programs of training and technical assistance cosponsored and co-operated by SEAs, ISAs, and BSC. They are conducted for the benefit of school district leadership teams who are responsible for leading the implementation of ADL in their districts over the course of their training. Five or more district teams might participate at one time in an institute which, ideally, should last two to three years. The objectives of the institute are to provide: (1) training and support for installation of ADL in multiple districts at one time, and (2) develop in SEAs, ISAs, and school districts knowledge of ADL training and technical assistance capability.

Additional features of institutes upon which their effectiveness is predicated are:

- The program of training and implementation includes the events and follows the sequence that emerged from the field test implementation of ADL (described above). One addition is special training sessions for linkers, which enable them to begin linker support for their school districts as they both participate in the same institute.
- District leadership teams which sign on for an institute do so on the basis of an intensive orientation to ADL followed by analysis, reflection, and planning in their respective districts. As a condition of participation, they agree to complete institute training and to lead implementation of ADL in their districts over the course of their training.
- As with ADL itself, the institute is designed to reflect Joyce and Showers' (1980) elements of effective inservice--especially coaching for transfer of training (through technical assistance services delivered in the districts).
- Finally, the institute encourages networking of school districts with their ISA and among themselves during and following the institute. In this way, participants become primary problem solving resources for each other.


CLASSROOMS
CLASSROOMS
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SCHOOL
SCHOOL
SCHOOL
DISTRICT 1
DISTRICT 2
DISTRICT 3
Application
INSTITUTE
Training, information sharing, and simulation
ISA X

Figure 6. The training/implementation institute dissemination strategy.

By exploiting the pyramid-type hierarchy of SEA, ISAs, and LEAs for ADL training/implementation institutes, avenues are opened for rapid and effective dissemination of ADL. Inasmuch as the costs of participation in the institutes and implementation of ADL are nominal and manageable with funds normally available to most school districts, dissemination is economically feasible as well as efficient and effective.

Outcomes

Simply put, the work of BSC was to develop with educators the elements of ADL, to implement and test them in schools, to explore a strategy for wider dissemination, and to contribute learnings from these experiences to the knowledge base on improving instructional effectiveness. Outcomes of these efforts are discussed below according to the objectives to which they relate.

Achievement Directed Leadership

What was originally intended to be a simple classroom technology with accompanying training for its use eventually became a comprehensive, research-based improvement program called Achievement Directed Leadership (ADL). This program is the principal outcome of the BSC project. As previously stated, the program consists of: (1) a leadership plan for school districts which specifies roles and functions for students, teachers, and administrators, (2) a research-based process for monitoring critical classroom variables, and (3) a training program to prepare educators to perform the functions associated with their respective roles and functions.

The leadership plan, the classroom variables which are the initial focus of instructional leaders, and the classroom technology for monitoring and managing the classroom have all been described earlier in this chapter. The training program and related materials which have only been alluded to until now are listed below. The thrust of the training is clearly indicated by the titles of the workshops. The purpose of the handbooks is to set out the roles and functions of teachers, administrators, and external linkers in the implementation process, and to provide technical information and instruments that may be needed by linkers and educators as they go about ADL training and implementation.

Workshops. Each workshop, other than one which provides an orientation to the program, is devoted to specific training in one of the major program components and includes an instructor's manual, sets of handouts and transparencies, and a videoscript booklet. The seven ADL workshops are assembled in two workshop guides, one for administrators and one for teachers. They are:

A Guide for Administrators

- Orientation to ADL Workshop for Administrators
- Managing Instructional Content Workshop for Administrators
- Managing Instructional Time Workshop for Administrators
- Participatory Supervision Workshop for Administrators

A Guide for Teachers

- Orientation to ADL Workshop for Teachers
- Managing Instructional Content Workshop for Teachers
- Managing Instructional Time Workshop for Teachers

The following videocassettes, available in 3/4" U-matic, 1/2" VHS and 1/2" Betamax, were developed to accompany the ADL workshops.

- Orientation to Achievement Directed Leadership
- Management of Instructional Content
- Management of Instructional Time for Administrators (Part I)
- Management of Instructional Time for Administrators (Part II)
- Management of Instructional Time for Administrators (Part III)
- Management of Instructional Time for Administrators (Part IV)
- Management of Instructional Time for Teachers

Handbooks. The four ADL handbooks are:

- Handbook for Linkers
- Handbook for Central Office Staff
- Handbook for Principals
- Handbook for Teachers

Use of the handbooks themselves is a topic addressed in the training workshops.

Implementation and Dissemination

The outcomes of our efforts to develop an implementation plan and dissemination strategy for ADL are the plan and the strategy that were discussed above and the learnings that we acquired in their development and testing. The major learnings are included in the general summary of learnings reported in the next section. Some of these learnings are given added attention in the discussion of issues in Chapter Three.

Learnings

Our experience resulted in several kinds of learnings. Of first importance are learnings concerned with the effects of ADL, and the evidence of chief interest here, although indirect, is the achievement test performance for school districts which implemented and tested ADL. Other important learnings relate to the activities of development, implementation, and dissemination, and the experiences and perceptions of BSC staff with respect to the involvement and attitudes of our educator partners in these endeavors. Important findings are briefly reported in the following two sections. Discussions of improvement issues in the next chapter will elaborate on some of these learnings. Extended discussions of outcomes can be found in the documents listed in Appendix C.

Student achievement. The ultimate goal of BSC's development of ADL was to improve student achievement in basic skills subjects. Results from the Pennsylvania, New Jersey, and Delaware field test districts' standardized testing programs were used as the basis for examining student achievement in reading and mathematics. A summary of standardized achievement test data, from 1981 through 1985 for the Pennsylvania and New Jersey districts, and for testing in 1978 through 1985 for the Delaware district, is presented in Appendix D. The scores are normal curve equivalents (NCEs), averaged by school and by grade, and also show gains/losses from year to year.

Before the 1981-82 field test, low student achievement was a cause for concern in the New Jersey district. Only one grade out of eight scored above the national average (50 NCEs) in reading; six grades out of eight scored above the national average (50 NCEs) in mathematics. Average gains from 1980-81 were only +1.4 for reading and +1.5 for mathematics. The newly appointed superintendent felt that ADL had significant potential for improving basic skills instruction and achievement, and decided to implement the approach (full scale) in grades K-8 districtwide during the 1981-82 school year. As Table 2 (in Appendix D) illustrates, students performed markedly better in the spring of 1982. Two grades in reading (grades 1 and 2) and seven grades in mathematics (grades 1-7) scored above the national average of 50 NCEs. All eight grades demonstrated gains in both reading and mathematics. Changes in reading averaged +4.0 NCE points and ranged from +1.3 to +7.9 NCEs. Changes in mathematics averaged +5.1 NCEs and ranged from +2.3 to +12.9 NCEs.

Biester et al. (1983) presented an analysis of these test data which suggests a relationship between level of ADL implementation and student achievement. Achievement gains were most positive for those schools with the highest levels of implementation. The analysis also revealed a link between length of involvement and gains in achievement: two of the three schools that implemented program elements prior to the field test also implemented the program more fully in 1981-82 and showed the greatest gain in student achievement.

The upward trend in achievement gains continued over 1982-83 and 1983-84 although the magnitude of the gains progressively decreased. The superintendent attributed the decrease to an overall lessening in the degree of implementation sparked by his own relaxation of supervision procedures and his initiation of new district efforts, such as a teaching styles and strategies program. For example, as a result of the dramatic increases in student achievement during the field test year, the superintendent reduced the number of required classroom observations and the number of principal seminars devoted to implementation of ADL. In addition, the large amount of time the superintendent devoted to sharing the district's success with outside educators (in conferences, symposia, etc.) limited his efforts to stabilize and institutionalize the new practices. However, in spite of the decrease in the magnitude of achievement gains over the last two years, 1983-84 and 1984-85, the substantial initial increases were maintained.

After reviewing the declining trend in achievement scores, the superintendent developed plans to increase classroom observations, BSC involvement, and his own monitoring during the 1984-85 school year. This renewed emphasis on ADL practices led to an increase in achievement in 1985--the district received a five-year certification from the state as a result of increased achievement scores.

Although the degrees of implementation were less in the Pennsylvania and Delaware districts, the patterns of achievement gain were similar. In the Pennsylvania district there was an initial lack of public or overt district press for improved achievement. Prior to the field test, students at most grade levels were scoring near the national average (50 NCEs) in reading and mathematics. The district decided to implement ADL's time management practices in reading and mathematics and content management practices in mathematics only in five elementary schools in the 1981-82 school year. Partial implementation of the program seemed to have a positive influence on achievement in those schools. Achievement gains in the five schools also were greater in mathematics than in reading, which was consistent with the greater emphasis on content management in mathematics. Moreover, these gains were higher than those of the non-implementing schools (Biester et al., 1983). Student achievement in the district began to improve noticeably in the 1982-83 school year, and this trend continued in 1983-84, when ADL was implemented in all of the district's elementary schools. Although the actual causes of these improvements in achievement are unknown (different principals put different aspects of the program into practice, and to varying degrees), the principals' training in ADL is certainly a highly reasonable explanation.

ADL was first implemented in the Delaware school district in the 1978-79 school year. In the fall of 1978, student achievement at most grade levels was slightly higher than the national norm but lower than the state norm. However, in the spring of 1979, after one year of implementation, all grades registered impressive increases. The average gain on the total battery of tests was +13 NCEs. Gains ranged from +0 to +22 NCEs. These gains are an encouraging sign of ADL's potential for raising student achievement, but they should be viewed cautiously. It is generally unwise to compare results from tests administered at different points in the same school year--in this case, fall 1978 to spring 1979. The comparison is discussed here because the state department did not mandate testing at all grade levels in the spring of 1978. Achievement scores dropped slightly in 1980 and 1984. The superintendent volunteered an explanation for the 1980 decline--he shifted his emphasis in the district to other areas of concern. In 1984 the decline coincided with departures from the district of the superintendent and the principal in one of the district's two elementary schools. Both educators were strong supporters of ADL.

In conclusion, these relationships between student achievement in reading and mathematics and level of program implementation observed in the three field test districts lend considerable support to the hypothesis that Achievement Directed Leadership can have a significant, positive impact on student achievement.

Improving effectiveness. BSC learned a great deal about the problems and promises of improving instructional effectiveness from its experiences working with educators on the development, implementation, testing, and dissemination of ADL. Some of the more important learnings are briefly noted here according to whether they occurred in connection with our early development work (1978-81), districtwide implementation (1981-85), or dissemination (1983-85).

The period 1978-81 was the time of collaborative development of the methods of monitoring and managing the classroom focus variables according to the phases of the improvement cycle. BSC produced initial versions of methods and associated training for practitioners to acquire skill in the methods. Our partners reshaped our thinking based on their experience with our methods and knowledge of their craft.

- Working with the state education system top-down proved to be an effective way of locating school districts, schools, and teachers who made good partners. Officials used their personal network of friends to find partners for us. This seemed to invest the development effort with special importance.
- True voluntary participation was difficult to define let alone identify in the field. In any event, the perceived worth of the program and its purpose appeared to be a greater influence on participation of teachers than the initial reason for its involvement.
- Teachers and administrators provided vital guidance to the developers of program methods and materials. However, a majority of each was more interested in protecting its

respective autonomy and security than in actually participating in the development process. Moreover, many teachers indicated that they did not believe that development was part of their job.

- Although the elements of ADL were never brought together and implemented as a program during the development period, it was still evident that success of voluntary groups of teachers did not generally lead to greater involvement within or across buildings. In fact, there was reason to believe that some small groups of teachers were isolated by their colleagues because of, or in spite of, their success.

Following the recommendation of the review team sent to BSC in the spring of 1981, we planned districtwide testing of the management and training components for classroom time and content, which by this time were rather well developed. Implementation for districtwide testing began in three school districts in September of 1981. Although testing was completed in the spring of 1982, we continued to work with two of these districts on institutionalization of the program and implementation of ADL in secondary schools. It was early in 1981 when we realized that implementation of training outcomes without continued support for teachers was highly unlikely. Thus, the leadership plan was conceived and we began its development.

- BSC experience suggests that attempting to win commitment for an innovation prior to implementation may be unrealistic, and that commitment from central office staff, principals, and teachers develops with mastery of the innovation and with success with its use. A commitment from the superintendent to sincerely back the innovation may be a more reasonable expectation for external linkers.

- BSC observed greater administrative commitment and leadership when implementation was districtwide. "Pilot site" efforts in a district were difficult to sustain and spread.

- Cost need not be a problem. Indeed, we found that even poorer districts have ways of financing reasonable amounts of training and materials.

- It was difficult for some schools and districts to understand the nature of a program that did not create new subsidized positions. However, by not creating new positions, even temporarily, we seemed better able to sell the concept that effective instruction is the regular business of regular staff.

- BSC experience suggests that tighter linkages promote effective practices, and districts that wish to tighten couplings can do so, although much time and effort are needed to counteract staff resistance. Loose coupling does not have to be accepted as a given condition.

- Turnkey training appeared to be successful with people from a variety of education agencies depending on their talent for and experience with training. However, it was readily apparent that many administrators, including principals, do not believe that their positions require them to train. Many were fearful of training and preferred to delegate the job to others. Nevertheless, with adequate training and support, many became effective trainers. Some came to enjoy and take pride in their new competence.

- We learned that behavioral change requires understanding, practice, and coaching for the one who is expected to change--and practice and coaching, and more practice and coaching, etc!

- Neither teachers nor administrators seemed to be aware initially of the overriding importance of the classroom focus variables. Moreover, many teachers were negative to the notion of systematically assessing the effectiveness of their classes along these dimensions. Finally, many teachers and administrators were intimidated by their functions specified by the leadership plan, particularly the expectation that they work together on diagnosis, prescription, implementation, and evaluation of classroom improvements. Although some teachers and administrators volunteered at the end of the test year that "these things should have been done long ago," many were still threatened--particularly those staff with the most need.

- Schools and school districts which suffer from low achievement and poor instruction almost always suffer from poor organizational development as well. The good news is that selective organizational development efforts can be tied to the innovation process and increase the probability that the innovation will be implemented reasonably well.

- Data and documentation from the field test provide important evidence that educators, in the span of one year, accomplished a reasonable implementation of ADL and had their student achievement scores increase in rough relationship to the schools' implementation of the program.

- The cluster of factors discussed by Miles (1983), administrative commitment, pressure, and support, is essential to institutionalization. Institutionalization is highly dependent on the continued support of existing district leaders. BSC questions whether institutionalization is ever routine in the sense that little energy is required to sustain the implementation.

- Tryouts of ADL processes at the secondary level gave no evidence that the classroom variables found to be so important to students at the elementary level were any less important here.

- The principal difficulty that hindered implementation of ADL at the secondary level was the lack of basic conditions regarding curriculum and testing (e.g., articulated curricula and standards for admission to and satisfactory completion of courses were frequently ambiguous).

- The ratio of instructional leaders to teachers was impossibly meager and the provisions for instructional supervision were mostly pro forma rhetoric.

- When BSC worked with secondary schools to establish minimal preconditions, subsequent implementation of ADL appeared relevant and beneficial.

Dissemination of the processes for managing instructional time and content began with completion of the first, primitive version of time training. Dissemination of either the pieces of ADL or the program as a whole was never a major responsibility of BSC. Indeed, NIE discouraged dissemination until adequate evidence could be provided that ADL had been institutionalized. Nevertheless, pressure was strong from educators seeking training programs to support their own improvement efforts--and over the years BSC provided training to hundreds of schools. School districts and schools in places as widely dispersed as Alaska, Texas, Panama, Alabama, Illinois, New York, New England, and Spain received training in various ADL processes. Of course, there was also continuous dissemination in the RBS region under the laboratory's contract with NIE. But, the formal objective of BSC was development of a strategy for effective, rapid, and economical dissemination of ADL. Some important learnings from work with the ADL training/implementation institute strategy are listed below.

- SEAs vary widely in their perceptions of their responsibility for delivering training and implementation support for improvement efforts.
- SEAs which are continually distracted by turbulent state politics and/or internal political concerns tend to shy away from the extended commitment of attention and staff support required of ADL institutes.
- Nevertheless, there was evidence that SEA and ISA staff subscribed to the ADL rationale--they developed strong linker training skills, and probably could effectively operate implementation institutes.
- ISAs that are committed to a policy of quick-hit response to service requests from a large, widely dispersed clientele are poorly positioned to participate in, not to mention run, training/implementation institutes.
- School district training/implementation teams, led by their superintendents, tended to complete institute training and acquired a strong understanding of ADL and the skills needed for its implementation.

Overall, the BSC experience indicated that ADL is a viable approach to improving instruction. ADL's strategies and methods also offer a promising approach to improving the school district's capability for carrying out change, i.e., building its capacity for continued renewal along a variety of dimensions. However, whether or not educators choose to improve (and at what costs) is a decision which is affected by many influences other than ADL.

CHAPTER THREE

MAJOR ISSUES OF INSTRUCTIONAL IMPROVEMENT

In the previous chapter, we described Achievement Directed Leadership (ADL) as it is today and what impact it has had on instructional effectiveness, at least in the ADL testing districts. In the process of developing and testing ADL and a strategy for its dissemination, the Basic Skills Component (BSC) has learned about a number of key issues that influence the whole endeavor of improving instructional effectiveness. Our purpose in this chapter is to discuss briefly the more salient of these issues as they relate to our ADL experience and to explain our current positions on them. Many of these issues are identified by Miles (see Appendix B).

The following discussion addresses the issues primarily but not exclusively in relation to the aspect of ADL to which they seem most closely connected: ADL as a means for improving instructional effectiveness, local use of ADL, wider dissemination of ADL. It should be noted, however, that aspects of ADL are intertwined and the issues that relate to them tend to overlap.

Our strategy for treating the issues under these headings will be to: make explicit the broad issues, review the arguments pro and con, explain BSC's initial intentions with respect to the issues, recount briefly the relevant ADL experience including questions and criticisms (particularly those advanced by Miles), and finally, state our current position.

ADL as a Means for Improving Instructional Effectiveness

Here we are talking about ADL as a total package: its strategies, plans, methods, instruments, data, and training. However, the main feature of ADL is its classroom technology, i.e., the research-based technology for monitoring and managing the critical dimensions of the classroom. Although the program has been expanded to include specific support functions for principals and central office staff, these were added later. They were added to assure districtwide installation of the classroom technology and a flow of appropriate inservice and resources from the central office to schools in response to the needs identified by school staff.

The two critical issues relative to ADL as a classroom technology are:

- Effective Schools (ES) vs. Effective Teaching (ET) vs. School Improvement (SI) as Primary Target
- R&D Innovation vs. Corporate Problem Solving as Main Strategy of Improvement

Each of these issues is discussed below.

Effective Schools (ES) vs. Effective Teaching (ET) vs. School Improvement (SI) as Primary Target

In the wave of educational renewal currently sweeping the country, the perspectives and emphases of different groups of improvers have given rise to special labels that represent their different biases. Although the differences among labels may seem subtle, differences in their meanings are significant. It is important to understand these differences in order to appreciate the various thrusts for instructional improvement and the issues they entail.

Effective schools (ES). A great deal has been written about so-called effective schools since the work of Edmonds (1979) first attracted the attention of researchers, policy makers, and educators. For the most part, Edmonds' work reinforced earlier findings of Weber (1971). Both stressed the reality that some elementary schools serving the urban poor do teach their students to be high achievers. Edmonds observed five conditions common to these effective schools. They are: (1) strong administrative leadership, (2) high expectations for student achievement, (3) an orderly atmosphere conducive to learning, (4) an emphasis on basic skills acquisition, and (5) frequent monitoring and evaluation of pupil progress.

Purkey and Smith (1983) have thoroughly reviewed the ES literature, which they perceive to include many studies beyond those of Weber and Edmonds. A major part of their review is a severe criticism of the methodology of most ES studies. Nevertheless, they conclude:

> Specific criticisms of particular studies and methodologies notwithstanding, and disregarding the number of inconsistencies in findings, there remains an intuitive logic to the findings of the above research. Flaws in the original research should not discredit the notion of discovering effective school characteristics--seeds for school improvement that can be sown elsewhere. However, the opposite approach--blanket acceptance--would be dangerous. (p. 439)

The authors then proceed to offer their own list of factors which they believe profile an effective school. Their list gives greater emphasis to organizational features of the school and staff collaboration and less to technical support for instruction than is true of Weber and Edmonds. This seems to reflect the belief of Purkey and Smith that conditions of effectiveness cannot be imposed upon the school, but instead must be nurtured within the school to become primary features of its culture.

The appeal of the school as an improvement target is readily apparent. The school is the site where instruction takes place, and its organizational unity, manageable size, and relative autonomy seemingly make it a strategic change unit. It is clear from the ES research that some urban elementary school principals have used the delegated power and free resources that have accompanied autonomy to bolster their own press for improved instruction and greater student achievement. In so doing, they have succeeded in marking the strong, committed, and active principal as a central feature of the effective urban elementary school. These principals have set the course of their schools toward improved effectiveness and have worked for this goal throughout the school despite restrictive district contracts with unions representing teachers and administrators. Still, a number of researchers are skeptical of the image of the strong leader principal (e.g., Cohen, 1982; Koehler, 1981; Purkey & Smith, 1983). They argue that the research does not make clear how specific principal actions enchance effectiveness in the classroom. Thus, ES research is an uncertain guide to increasing effectiveness.

The notion of ES schools and the wisdom of placing them at the center of improvement efforts is further obfuscated by the Purkey and Smith (1983) observation that combinations of factors other than those typically found on ES lists may be sources of effectiveness in some schools. Moreover, these authors note that some schools may have primary objectives other than improving instruction. For instance, a school staff may wish to improve their communication and collaboration (which may indirectly affect instructional effectiveness, if at all).

Effective teaching (ET). When this research is viewed as including findings for classroom conditions and processes beyond strictly teaching acts, the volume and significance of the research are impressive. Moreover, there is a high degree of convergence among the findings and they command considerable credibility among researchers (Rowan et al., 1983).

BSC has identified a critical subset of these classroom variables (the focus variables or vital signs discussed in Chapter One). The variables selected are consistent with similar variables in Carroll's (1963) model of school learning.

Several improvers have developed teacher training approaches to improving classroom effectiveness based on persuasive research findings (Good et al., 1983; Hunter, 1967-1971; Stallings, 1983). However, an exclusive teacher training approach has shortcomings. First, training that is restricted mainly to developing teachers' competence to replicate standard prescriptions for effective teaching overlooks the variability across and within classrooms of conditions that affect student learning. Second, training that is not followed up, as needed, with on-the-job feedback and coaching is not likely to have much impact on practice (Joyce & Showers, 1982). However, these weaknesses are not beyond solution. A classroom-centered approach to improving instructional effectiveness that includes provisions for coping with classroom variability and training follow-up warrants serious consideration.

School improvement (SI). School improvement is sometimes regarded as the medium, sometimes as the message. For some, SI is the medium or means of reaching the improvement target and achieving the intended improvements (e.g., Pincus & Williams, 1979). For others, SI appears to be the message, i.e., the objective of improvement efforts (Fullan, 1982; Purkey & Smith, 1983; Fullan, 1982;). In this latter view, SI includes the determination of improvement objectives and the strategies and actions used to reach and impact those objectives. However, the emphasis is primarily on the change process and "becoming good at change" (Fullan, 1982).

Huberman and Crandall (1982) have identified in the literature four clusters of factors which, from either SI view, appear to encompass the main ingredients of school improvement. They are:

- processes and procedures that facilitate school improvement
- people that affect the school improvement process
- the characteristics of the innovation that affect implementation
- resources required to support school improvement

The change process is described simply by Clark and colleagues (1984) as consisting of three general phases: adoption, implementation, and institutionalization. However, the phases do not occur naturally or easily. They involve the planned and deliberate actions of teachers, administrators, and external assisters. Who does what, when, and for what immediate purpose, are organizational decisions. How well the improvement effort succeeds comes down to those involved, their choices, their responses (individually and in groups), and the characteristics of the innovation which are themselves elements of the improvement effort. With respect to the innovation, Clark and colleagues (1984) conclude that "the greater the complexity of the innovation, then the greater the relative advantage and the greater the liklihood of implementation, provided that personal and professional benefits and costs are balanced" (p. 57).

Whether or not SI per se dominates improvement efforts will depend in large measure on the weight improvers give to pedagogical quality versus general organizational development. Berman and McLaughlin (1975) have argued that hopes for targetted improvements through externally planned innovations are doomed to disappointment; the process of mutual adaptation will almost surely alter the efficacy of the intended innovation. On the other hand, locally conceived and driven SI which is not pedagogically sound is unlikely to improve instructional effectiveness. However, the organizational climate may benefit from improvements in human interactions and group processes with the SI approach.

Reasons for and against targetting improvement efforts to the school, to the classroom, or to the improvement process itself have been discussed as if they were mutually exclusive. Obviously they are not, for all need to be included in any effort to improve instructional effectiveness. Nevertheless, the choice of one or the other as the focus of an instructional effectiveness effort speaks to the improvers' beliefs about the sources of instructional effectiveness and how effectiveness can be enchanced.

From the beginning, BSC intended that the means of improving instruction would be multidimensional, but that the classroom would be the primary focus of the improvement effort. Certainly, it was recognized that access to classrooms would be through the school and the school district, but the principal and central office staff roles in the BSC improvement process would be reserved for local determination. Deferring these decisions to the interests of local educators and to the school improvement strategies and capabilities already in place in school districts seemed consistent with the implications of the literature on educational change (e.g., Fullan & Pomfret, 1977; Pincus & Williams, 1979).

The reasoning behind the focus on the classroom is as follows:

- Efforts to improve instructional effectiveness must alter conditions and processes in the classroom since these are the school influences most directly related to student achievement.
- The status of classroom conditions and processes varies widely across classrooms at any given time and within classrooms over time.

- The key to effective instruction is the arrangement of optimal conditions for teaching and learning in each classroom. The key to improving instruction is assisting teachers who need to improve their skills in achieving and maintaining optimal conditions for learning (Gagne, 1970; Glaser, 1965; Wittrock, 1970).
- The emergence of many significant research findings for critical dimensions of the classroom opens the possibility to educators of systematic monitoring and management of the sources of instructional effectiveness (Medley, 1977; Rosenshine, 1976).

Our experience with developing and testing the classroom technology for monitoring and managing the critical classroom variables deepened our conviction that directing improvement primarily to the classroom is an effective, as well as obvious strategy. There was early evidence that with appropriate support, teachers could and would alter their practices to improve measures of classroom conditions. There was also evidence that, after some involvement with the program, teachers would give balanced attention to all of the variables. Finally, there was evidence that achievement scores for schools using the improvement technology increased roughly in relation to their degree of technology use (Biester et al., 1983).

We also learned that districtwide installation and sustained appropriate use of the classroom technology required training and assistance for teachers beyond what BSC provided in technical workshops. We chose to involve principals and central office staff to provide this needed assistance. Supporting instruction was their general responsibility, thus allocating time for it should not be a problem. Principals, with help from central office staff, were strategically positioned to deliver training and technical assistance, and the quality of this assistance was likely to be higher as a result of having provided the initial teacher training. Thus, the functions of principals as participants in the improvement process were clearly indicated by the needs of classroom teachers:

training, participatory supervision, and quality planning of each. Participatory supervision came to mean working with teachers to use the technology to make appropriate alterations in classroom conditions and processes. This is very much in accord with the observation of Purkey and Smith (1983) that the characteristics of effective schools may be extrapolated from classrooms.

As might be expected, districtwide implementation experiences uncovered specific school improvement needs that had to be met to install ADL as well as to ensure the on-going use of the program. These needs included the development of conditions that Pincus and Williams (1979) cite as necessary to accomplish implementation of innovations. What was not expected was the extent of district need for some specific organizational development skills, e.g., communication and collaboration skills. Typically, these needs could best be met through external support enlisted by district leadership. Again, the functions of the upper level, the central office, were extrapolated from the lower level, the school.

All in all, our experience with the development and testing of ADL over a number of years with many schools and school districts, confirms the need for BSC to make the classroom the prime target of improvement. Our expectation that low achieving schools and school districts would need help with the school improvement process was also confirmed. However, we did not realize how much assistance would be needed to install the process, i.e., establish the fundamental conditions necessary to coordinate instruction districtwide. For example, it was surprising to learn that in many cases curriculum was vaguely specified and loosely articulated and teachers rarely had day-to-day use of prior learning data (standardized test data) on their current classes. It was also surprising to find minimal development of communication and collaboration skills among some teachers and, more importantly, among some supervisory personnel.

At this point, we are more than ever convinced that instructional improvement is dependent upon appropriate improvements in teaching and learning in individual classrooms. We now know that much assistance from the school and district levels is necessary to accomplish improvement in the classrooms of low achieving districts. The viability of this assistance will depend upon its relevance to the significant instructional needs of the classroom and the school improvement capability of the district--from the classroom to the office of the superintendent.

R&D Innovation vs. Corporate Problem Solving as Main Strategy of Improvement

Once the goal of improved instructional effectiveness is settled and the target areas are determined, there remains the question of selecting a strategy to effect the improvement. From the late nineteenth century through the first two-thirds of this century, a substantial portion of American educational leadership looked to the scientific movement for a strategy of educational improvement. Certainly, the methods of the physical and life sciences exerted a profound influence on educational innovators during the 1960's. It was during this period that the RDDA model reached its peak of popularity. According to this model, researchers identify problems blocking educational effectiveness and construct research-based hypotheses which suggest technological solutions. Educational developers then prepare programs to reflect these solutions, including training for intended users. Educators to whom the programs are disseminated then apply the solutions to the problem in their own settings (e.g., Havelock, 1973).

The history of this model is not resplendent with success (Averch et al., 1972). The R&D solutions that were effective in some settings were difficult to replicate. Whether these solutions, i.e., innovations, were viable is not known since, in most cases, they were either not used or were misused (Berman & McLaughlin, 1975; House, 1974). However promising the research base and the innovation or program which interprets it for practice, the intended effects are finally dependent upon the users' appropriate application of the solution to an appropriate problem. Reasons for non-use or misuse of R&D innovations by practitioners are many and varied--some are tied to the nature of the innovation and its related training whereas others are related to the competence and motives of users.

With disillusionment in R&D "packaged" programs came an increasing emphasis by external consultants and educators on locally conceived, locally created improvement solutions. Firestone and Corbett (in press) have observed a shift in emphasis from fidelity of use of R&D solutions to local reinventions of proposed solutions, to serendipitous local improvements. This shift has been accompanied by a corresponding loss of pedagogical value of improvements. But success has remained elusive. Trading an emphasis on rigorous and faithful use of external R&D for enthusiasm and ownership of local improvement efforts has not always helped these efforts to be more effective. Firestone and Corbett detect a recent tendency to redress the emphasis and to turn again toward prepared R&D innovations. They stress the key to success as now being quality use of pedagogically sound innovations.

Greater emphasis on local school renewal and reform has been accompanied by a growing interest among some educators in organizational development activities (O.D.) (e.g., Firestone & Corbett, in press; Schmuck

& Runkel, 1985). Logically, the dimension of O.D. that is concerned with improving human relations should encourage popular support for improvement efforts. Hopefully, the technical dimension of O.D. will emphasize the need for pedagogical effectiveness, as well. According to Schmuck and Runkel, problem solving is the heart of O.D.--all else is preparation, follow-up, or recycling. Thus, the argument for a corporate problem solving strategy does acknowledge technical realities in addition to stressing local support through group participation.

BSC planned and developed the ADL classroom technology precisely for the purpose of providing educators with a problem solving capability relative to the technical aspect of teaching, i.e., the establishment and maintenance of conditions conducive to student learning. Of course, some teachers are effective and maintain these conditions without ADL and/or particular knowledge of classroom research findings. Presumably, they have acquired from training and personal experience, knowledge, and images of effective classes and strategies and techniques for altering classroom processes that appear to be off track. To the extent that many teachers are less effective because they lack these capabilities, BSC saw R&D as a means of nurturing effectiveness. The improvement cycle along with the necessary instrumentation, methods, and data were developed for this purpose.

Use of the improvement cycle was intended to enhance and promote data-based problem solving and decision making, the essence of professionalism according to Feldens and Duncan (1978). A training program, developed to prepare educators to use the classroom technology, was intended to provide schools and school districts with the capacity to continually renew and extend this new improvement capability, i.e., professional problem solving.

BSC was also well aware that implementation difficulties had been the undoing of many past R&D innovations. Pursuant to the literature on educational change, we planned strategies to accommodate the installation of ADL in the classroom and in schools. First, the innovation itself would narrowly focus on the monitoring and managing of classroom processes. This would leave considerable room for local educators to make their own decisions on issues of use. Examples of questions for local resolution were: who would observe classrooms, when would observations be made, and how would information be shared. Our hope was that by respecting the need for local educators to participate in implementation decisions, they would be more inclined to respect the technical integrity of the innovation and implement it accordingly.

Second, recognizing that low achieving school districts are likely to have limited change capability, we planned for BSC linkers to assist educators with the development of change capability as needed. We anticipated the needs that would crop up would be similar to those identified by Pincus and Williams (1979), i.e., political and social changes penetrating the zone of protective tolerance, leadership departures, ineffective delivery systems, becoming captives of the innovations benefits. We focused on a change capability that was highly technical but necessary to the implementation of ADL.

Indeed, we believed that the change capability created to facilitate implementation of the improvement cycle technology would remain in the schools and facilitate both the implementation of other innovations and the school's and/or school district's capability for further change.

Of course, in many cases there would be a pressing need to improve organizational climate in order to mobilize support for the new innovation. Again, we planned that BSC linkers should work with educators to achieve this improvement of climate pursuant to the requirements of the implementation plan.

Local Implementation of ADL

This section discusses the most salient issues concerning school and district use of the ADL classroom technology and leadership plan. These major issues and sub-issues are as follows:

Issues	Sub-Issues
• Top-Down vs. Bottom-Up Installation	• Tight vs. Loose Vertical Coupling
• Districtwide vs. Pilot Site Implementation	• Tight vs. Loose Horizontal Coupling • District vs. School-by-School Implementation • Adoption vs. Adaptation
• Egalitarianism vs. Differentiation of Resources	
• Planned vs. Natural Institutionalization	• User vs. Developer Orientation

Top-Down vs. Bottom-Up Installation

Some argue that teacher involvement in the selection of an innovation is crucial to the successful implementation of the innovation (e.g., Firestone, 1977). That is, the teachers who will be most influenced by the classroom innovation must be involved in early decision making about the innovation and become advocates for the innovation. This position closely follows one which suggests that teachers select and design their own inservice (e.g., NIE, 1966). It is expected that top-down implementations will either be co-opted by staff resistance or the implementation will be pro forma. Others (e.g., Crandall, 1983; Huberman, 1983) have argued that district leadership, accompanied by training and continued support for teachers, can lead to teacher mastery of and support for the innovation.

Like many other either/or propositions, the apparent dichotomy (top-down or bottom-up) may be a false one. Berman and McLaughlin (1975) noted that grass roots innovations not supported by district resources and interest, as well as strictly top-down innovations, were likely to fail. While they argue the case for "broad-based" support, districts are still left with the question of how to achieve such support. Miles is somewhat helpful here in noting that "participation/collaboration is less essential at the start of a change process (administrative initiative is more typical), but crucial as implementation proceeds" (Appendix B, p. 24).

Our position was to pursue a top-down installation model that provided for communication and improvement to be channeled bottom-up through the system with resources and support from the top. The decision to proceed with top-down installations was based on a rationale that is given greater attention in earlier documents (e.g., Graeber, 1980; Helms, Huitt, & Graeber, 1982). Summarized briefly, the major points in the argument are as follows:

- School systems are bureaucracies. If innovations are to be successful, they must be perceived as nonthreatening to the status and organization of the existing hierarchy.
- Given the loose coupling of many school systems, it seems unlikely that school or district staff, other than the superintendent, can command the resources and support needed to implement an innovation as demanding as ADL.
- A goal of ADL implementation was to build local capacity. Top-down implementation provides for training to district administrators who, in turn, train and supervise teachers. This is intended to build common knowledge, language, and procedures among administrators and teachers.

- While installation was to proceed top-down, the innovation, properly implemented, provides for regular communication and problem solving between the classroom and building levels and between the building and district levels.

There is nothing in our experience that contradicts Miles' observation that the top-down strategy " makes sense, but there are associated difficulties" (Appendix B, p. 11). One difficulty was staff resistance. There were principals and teachers who resisted--not an uncommon response to any demand for change--and superintendents and principals dealt with the resistance in more or less effective ways. In some cases, resistance waned when resistors were confronted with the improved student achievement in the buildings or classes in their district that implemented with higher fidelity. In other cases, when administrators increased their own technical and interpersonal skills to implement the program, their level of defensive behavior was lowered. Sometimes teacher resistance declined when administrators increased communication about ADL--without succumbing to requests for alterations that would severely blunt a faithful implementation.

The part of our experience that may be more telling is the fate of ADL implementations in districts that did not follow the top-down schema shown in the implementation plan (see Figure 5). In one early site, the superintendent and the school board encouraged teachers to implement ADL as their own project. A group of volunteer teachers and the principal were trained and then turnkeyed their training to the remainder of the school staff. But the innovation waned when teachers were reluctant to leave their own classes to substitute teachers while they observed in other classrooms. Further, teachers felt that peer supervision was not their job, but the job of the principal. In at least ten other districts, where by special request or because of an unanticipated change in district leadership, the top-down installation and implementation sequence was altered or abandoned, the implementation faltered (one or two schools were exceptions).

Researchers on both sides of the top-down vs. bottom-up issue agree that the support and assistance of central office staff other than the superintendent are needed. However, in our experience, the silent understanding which Joyce (1982) reports exists between teachers and principals about not encroaching on one another's domain seemed to be repeated for the central office and principal levels. Unless they had specific assignments from district leadership or requests from principals, central office staff were reluctant, on their own, to work in schools.

Although researchers (e.g., Huberman & Miles, 1984a; Wilson & Corbett, 1983) have found that districts tend to be loosely coupled organizations and some have argued that there are distinct advantages to districts being loosely coupled (e.g., Weick, 1976; Wilson, 1966), it was our experience that garnering support from central office personnel required the superintendent's action and frequently the tightening of a loosely coupled system. This confirms Rosenblum and Louis' (1981) finding that:

> ...linkages that are developed through the existence of a centralized, formal authority structure are critical: the more centralized the decision-making system, and the lower the level of teachers' classroom autonomy and influence over decision-making, the greater the likelihood of successful implementation. (p. 258)

Overall, our experience leads us to agree with Huberman's (1983) conclusion about effective school improvement strategies:

> ...administrators, both at the central office and building levels, have to go to center stage and stay there if school improvement efforts are to succeed. More nondirective strategies can work...but are poorer bets; they amount essentially to playing dice with the fate of an innovation. (p. 27)

We do not deny that instructionally effective classrooms could be developed using the ADL classroom technology in a bottom-up implementation model. However, it appears that the chances of success are higher in a top-down implementation.

Districtwide vs. Pilot Site Implementation

Should the initial implementation of a proven innovation involve most or all of the potential users in a district? Or should pilot implementations be carried out in one school or with a small group of teachers in a school?

Those arguing for pilot implementations advocate them as a means for building up initial commitment among a small group of users (i.e., grass-roots approach), or for providing a small, safe environment for working out program bugs to ensure that the full scale implementation will be smooth (Sarason, 1971). In the previous discussion, we presented some weaknesses of the grass-roots implementation strategy. In regard to efforts to modify an innovation and pave the way for a smooth implementation, Crandall (1983) notes:

> ...we join many others who have observed deleterious (or, at best, nil) effects of this process--innovations losing both their punch and their effectiveness because they were changed beyond recognition. Harmony is preserved; improvement is stymied. (p.7)

Similarly, Huberman and Miles (1984a) found that reducing the initial scale of a project to eliminate problems (i.e., downsizing) greatly reduced potential benefits. In their words, "smooth early use was a bad sign" (p. 273).

The issue of districtwide vs. pilot implementation is related to the adoption vs. adaptation debate. Previously, many argued that mutual adaptation was a necessary and valuable step in implementation designed to change teacher behavior (e.g., Berman & McLaughlin, 1975). More recently, researchers such as Huberman and Miles have pointed out the need for fidelity to an innovation and have confirmed that faithful implementation is not an unrealistic expectation.

In addition to those who favor pilot site implementations, there are those who support school-by-school vs. districtwide implementations (Cohen, 1982; Goodlad, 1984). They argue that the idiosyncratic nature of each school building suggests that the building, not the district, is the appropriate unit for implementation of an improvement effort.

Our review of the literature did not find any direct arguments for initial use of proven innovations by 100% (or even a substantial proportion) of the potential users. Berman and McLaughlin (1975) do note that a "critical mass" of participants is desirable and they discuss the erosion of participating staff morale that can be brought on by non-participants. Huberman and Miles (1984a) found that use by a high percentage of potential users was a positive indicator of achieving institutionalization. They also note that the success of an innovation with students is one factor which led to a high percentage of use. The extent to which wide use contributed to success with students appeared not to be explored.

Our earliest rationale for districtwide implementation focused on a concern for building local capacity. We argued that the only economically feasible way of assisting the tens of thousands of schools was through establishing and exploiting capacity within school districts--in this way each district could attend to the schools within its own jurisdiction. During the 1980-81 field test of ADL, we recognized the benefits inherent in an initial implementation that involved, for example, all elementary schools within a district. Implementation tasks such as the reconciliation of procedures for classroom observations, of student engaged time with existing district procedures for teacher observations, or the task of aligning curriculum and testing, require substantial time. The authority and curriculum expertise needed to effectively carry out such tasks are typically found at the central office level. Through our experience, we learned what common sense suggests: it is unlikely that large investments of central office staff time will be devoted to pilot efforts involving a few teachers or one building. Indeed, we found it difficult to sustain the interest of the superintendent in implementations involving only a small percent of his or her constituency. (This may be another manifestation of the press that exists throughout the school system for egalitarianism. See the section below entitled "Egalitarianism vs. Differentiation.")

It seems appropriate here to underscore the fact that we found that the district's willingness and ability to provide resources to the implementation are crucial to the success of the innovation. For example, where districts did not provide curriculum matches and sufficient inservice time for teachers or principals, or failed to remedy situations diagnosed by classroom data, implementations faltered. Continued support from the building and district levels was crucial. Obtaining such support was often frustrated by the loose horizontal coupling within districts. We encountered numerous situations where filling a relatively simple request (e.g., getting video equipment distributed to schools for training) was a complex and time-consuming task for the district.

In addition to the difficulty of obtaining needed resources and support, our experience showed other negative consequences of pilot efforts. Frequently, pilot implementations raised divisive speculations among staff as to why some buildings or teachers were included and others were not (i.e., the egalitarianism issue). At times, implementation problems became rallying points from which participants and nonparticipants attacked the feasibility of ADL, rather than opportunities for improving the implementation, altering the context, or perhaps making a change in ADL that would not threaten its core. Perhaps as a result of these divisive and defensive outcomes, we found that pilot implementations did not bode well--either for the spread of the innovation within the district or for institutionalization at the pilot site.

In conclusion, we are convinced that, with a proven innovation such as ADL, districtwide participation is an important factor that leads to implementation and institutionalization. It is our observation that the willingness to implement districtwide is not only a measure of a district's commitment but that districtwide implementation may, in turn, produce greater commitment. And, in agreement with Wilson and Corbett (1983), we saw that if districtwide implementation is desired, tight rather than loose coupling is most effective in bringing it about.

Finally, with respect to the sub-issue of adoption vs. adaptation, we agree with Huberman and Miles (1984a) that "enforcing fidelity...really paid off--if it was accompanied by effective assistance (p. 279)." In our experience, the press on district leaders to modify ADL to make it more palatable to teachers, principals, and central office supervisors was strong. Early signs of ambivalence or a lowering of expectations by district leadership caused the pressure to persist. The district leaders who took a firm but not dictatorial position were those who eventually saw the pressure to downsize or resist ADL diminish and who achieved the desired changes in student achievement. However, we should note that in most cases, resistance to the change probably never completely disappeared--an issue we will discuss later in the section on institutionalization.

Egalitarianism vs. Differentiation

Can districts attend differentially to diagnosed needs among central office staff, principals, and teachers? Can principals attend differentially to diagnosed needs among teachers? Or, must all professionals receive the same level of attention and resources?

We could not find arguments against differentiation of attention or resources in the literature. Indeed, the seemingly staunchest defenders of teachers' professionalism espouse teachers' need for autonomy to deal with differences in the learning styles and backgrounds of their pupils (for example, see Darling-Hammond, 1984). There are some (e.g., Purkey & Smith, 1983) who argue that in order to establish a common culture and understanding, staff development ought to be schoolwide. However, arguments and policies against differentiation of attention and resources were frequently encountered in practice.

Research supports the common sense notion that classrooms and schools differ and thus opportunities for improvement differ from classroom to classroom and from school to school. We do not deny the value of schoolwide staff development as a means of building common understandings and shared goals. Initial training for ADL is intended to be schoolwide. However, we intended that the improvement cycle that is part of the ADL classroom technology (see Figure 1) be used to diagnose opportunities for improvement at the individual classroom and the individual building levels. Improvement strategies, while they would be drawn from existing research findings, would differ in application according to the diagnosed needs. Allocation of resources proportional to need also seemed a sensible strategy, considering that most school district resources (principals' time, pupil time, district funds for materials, etc.) are in limited supply.

Pursuing this strategy might mean that teachers with a history of instructional effectiveness would not be observed as frequently as teachers who were less effective or who were new to a school or district. However, in our experience, we found principals arguing strongly that observations had to be equally distributed across all teachers or there would be complaints of harassment or neglect. Similarly, district personnel and superintendents argued that all principals had to participate to the same degree, regardless of need.

Not only can the degree of staff participation in ADL be differentiated, but we strongly suggest that districts provide differentiated attention to diagnosed opportunities for improvement at the teacher and principal levels. District personnel are encouraged to look across the diagnosed needs of teachers (and principals) in order to identify groups of teachers (or principals) who might benefit from common inservice. Surprisingly, even districts who were most faithful to ADL did not, in the five years we worked with them, put the concept of differentiated inservice into common practice. They were not ready to face either the consequences of identifying and addressing improvement opportunities for selected teachers (or principals), or the increased work involved in providing differentiated inservice.

In some instances, resistance to differentiation seemed to be a convenient block to implementation. For example, a principal might feel that because it is not feasible to frequently observe all of his or her teachers, no teachers should be observed. In other instances, districts had lost their rights to set teacher or principal inservice agendas during negotiations with teacher or principal bargaining units. Thus, it was often difficult, if not impossible, for district leadership to use inservice time on behalf of ADL. In addition, we found that the notion of differentiating among teachers or principals for the purpose of inservice assignments runs so contrary to the school culture that even the staunchest of leaders was hesitant to tackle the issue. It is of interest to note that this cry for equal treatment is also an issue that surfaces in the discussion of career ladder or merit pay schemes. We have heard teachers argue vehemently against such schemes on the basis that they will promote differential treatment of the participants.

Professional development is central to the characteristics of an innovation (Fullan, 1982). Given limited resources and the fact that inservice education must focus on identified staff needs, we find the future for improvement bleak if the demands for egalitarianism and choice are not modified. It is highly unlikely that all teachers or principals in a district will have the same improvement needs. Providing inservice without differentiation is a misuse of both human and material resources.

Our critics have often intertwined this issue with the charge that ADL deprofessionalizes teachers by limiting their autonomy. They view the comparisons made with research data and the resulting prescriptions as confining. These are misconceptions about ADL classroom technology. ADL does not dictate prescriptions on the basis of the comparisons, but rather it urges participants to ask the question: given the level of the critical variable in my classroom, what does past experience (the research) suggest about my chances of attaining the achievement goal set for the class? If the chances seem poor, the teacher and his or her supervisor select a research-based strategy and method of implementation. Participants are informed that the improvement cycle technology can also be used with the myriad of variables, other than the focus variables, that influence student achievement.

The comparison phase does not dictate actions or specific prescriptions. It does give teachers a reading on the four critical variables--much as a doctor reads vital signs. Teachers who claim that such readings and the suggestions for influencing them "limit their autonomy" overlook: (1) the variety of ways in which research strategies can be implemented, (2) the existence of many other factors that influence the critical variables, and (3) the power of the improvement cycle to relate a particular strategy to a particular circumstance. Clearly, the idiosyncratic nature of classrooms is not ignored by the technology, and there is still much room and need for professional decision making. Perhaps the cry for autonomy is a defense against encroachment on one level by another (Joyce, 1982).

Both educators and researchers agree that teachers' ability to diagnose individual student problems is in need of much improvement (e.g., Cohen, 1982; Gil, 1980). It seems incongruous that these professionals also devalue attempts to provide teachers with a method for diagnosing instructional effectiveness. Must each teacher be left to sort out the many process/product results for him or herself? An alternative, that of providing each school with its own researcher/supervisor versed in the implications of classroom effectiveness research and able to prescribe for teachers, is both economically demanding and contrary to the notion of building local capacity.

In summary, the authors feel that the provision of differentiated inservice and resources is a strategy that is critical to the success of instructional and school improvement efforts. It is also central to the district's self-renewal and reform. Unfortunately, it is uncertain if the culture that has developed in the American school system can accommodate this concept.

Planned vs. Natural Institutionalization

Most research has treated institutionalization as the last stage in the change process (e.g., Hage & Aiken, 1970; Yin & Quick, 1977), and stressed user commitment, involvement, mastery of the innovation, and success. According to Miles (1983), this research supports the conventional wisdom that "a 'good', well mastered innovation that its users endorse or support will somehow just stay around" (p. 16). Except for some recent publications (e.g., Crandall & Loucks, 1983; Fullan, 1982; Huberman & Miles, 1984b), there has been little research on how institutionalization actually works.

We intended at the outset to use what was known about institutionalization in our planning with participating districts and to modify existing strategies based on our experience. For example, early research found that the majority of federally funded projects tended to disappear when federal funding was discontinued (Berman & McLaughlin, 1979). Although BSC provided free inservice training to the field test districts, the districts used their own funds to cover the cost of personnel and materials needed to support the training. We hypothesized that this strategy would help incorporate the innovation into the ongoing responsibilities and routines of the district--at the outset. The strategy might also be viewed as a test of administrative commitment, which is a key factor leading to institutionalization (e.g., Miles, 1983). While acceptance of fiscal responsibility for an innovation may be a necessary condition for institutionalization, it was not a sufficient one.

Lack of external funds made establishment of a district level position, such as a special project coordinator, less likely. However, we encouraged districts to place responsibility for ADL implementation with the existing central office leadership (especially the superintendent) and building level principals. This strategy can also be viewed as conducive to developing the administrative support and commitment needed to assure stability of the innovation. Our experience suggests that the degree of active participation by the superintendent is a key factor in institutionalization. Of our field test districts, the one that enjoyed the active involvement and support of both the superintendent and assistant superintendent showed the strongest signs of institutionalization. Institutionalization was weakest in districts with little or no involvement by the superintendent.

Another strategy which we encouraged districts to use was to incorporate ADL procedures into their existing routines and avoid the creation of parallel systems of procedures. For example, it was common for principals to object to ADL's classroom observations as being a duplication of effort--and thus adding substantially to their workload. These were sound objections, for most districts already had observation procedures (although the ADL and district systems were not duplicative in the sense that the same data were being collected). In practice, we found the integration of the two systems was difficult to achieve. Most observation systems were tied to mandated teacher evaluations. Although there were processes for amending state observation/evaluation procedures, districts were not anxious to tackle the job. And, we did not encourage districts to include ADL observations in their formal evaluation process until after ADL was installed and participants had a reasonable understanding of their roles and district expectations. In fact, teachers themselves have questioned why, if the factors observed in ADL are critical for student achievement, they are not considered in the evaluation process.

In spite of the practical difficulties, we maintain that eliminating parallel or duplicative processes and procedures is essential to the survival of the innovation. Two tactics we began to employ later in our dissemination efforts may prove helpful in the long run. First, we developed a checklist to help districts identify procedures that may be parallel to or somewhat duplicative of ADL classroom technology procedures. Second, we realized that it was overly ambitious to expect that most districts could install both of ADL's major classroom technology components (Time and Content) in one year. Extending the installation time (i.e., from one to two years) provides districts with more time to plan for implementation and to plan changes needed to stabilize and protect the innovation.

This process of integration, however, has a potentially negative consequence. That is, it presents a temptation for downsizing or transforming the innovation--usually at the district rather than the teacher level. We frequently found that when political pressure, whether actual or perceived, prevailed over the consideration of the fidelity of the innovation, the result was a more palatable but less potent ADL. This confirms Huberman and Miles' (1984a) observation, cited earlier, that "downsizing and blunting" an innovation minimizes both its thrust and its impact.

Some related problems are those of demandingness, potency, and vulnerability. Several researchers have confirmed that more complex and demanding innovations result in greater change than less complex and demanding ones (e.g., Berman & McLaughlin, 1975; Rosenblum & Louis, 1981). And, when schools are not instructionally effective, much, not little, change is probably needed. However, the demandingness of an innovation such as ADL also means increased resistance. Our experience indicates that the resistance to demands of behavioral change persevere over long periods of time. In all field test districts, there were teachers and principals who fondly remembered the simpler and less demanding days and exploited opportunities to regress. The achievement data for the Delaware and New Jersey field test districts are good examples. The Delaware superintendent, pleased with the 1978-79 achievement gains, felt secure in letting things run themselves in 1979-80. The result was a drop in district scores, followed by a renewed effort on his part to enforce implementation. Similarly, the New Jersey superintendent suggested that the decline in 1983-84 achievement gains, accompanied by a decline in level of implementation, reflected a drop in his monitoring and support during that school year.

These events lead us to conclude that even if processes seem established and the innovation has been successful, the inertia of success is not of itself likely to overcome the competing force of lingering resistance. In a sense, we agree with Fullan's (1982) observation that "the implementation and continuation process...is not linear and is neverending" (p. 77). Not only, as many caution, is it essential for a district to incorporate a process for initiating new employees into the innovative practices, but ways and means of maintaining the involvement of veteran users are also essential. Certainly, the incorporation of an innovation into district job descriptions and policies is important. External consultants and the innovations themselves can facilitate early attention to these conditions. However, even if the innovation is built into district policy and procedures, these policies and procedures are highly vulnerable to a change in district leadership. Furthermore, the tendency of districts to wander from one innovation to another (Runkel et al., 1980) is facilitated by a change in leadership. If new leadership sends administrators and teachers new messages about the use of their time and the priority of their assignments, the innovation can be eroded.

Disseminating ADL

In this section, we discuss the major issues and sub-issues related to the widespread dissemination of ADL. Many early efforts to disseminate educational innovations failed as a result of developers giving little attention to the dissemination process. Although BSC's early work focused on the development of ADL's classroom technology, consideration was also given to the problem of widespread dissemination. From the outset, we defined our interest in dissemination as centered around (but not confined to) dissemination as large scale implementation. Our concerns about dissemination as "spread of information" or even as "two- or multi-way flow of information" were real but secondary.

The chief concerns about widespread dissemination which we attempted to address were: (1) the logistics of reaching thousands of schools and classrooms, (2) the transportability of ADL, and (3) people's resistance to changing their own behavior. In some cases, our concerns influenced the design of ADL materials and methods. For example, videotapes were developed to assist turnkey trainers in conveying technical material (i.e., a transportability strategy). These material-embedded strategies are discussed elsewhere (e.g., Graeber & Helms, 1983). And, while they are certainly crucial for dissemination, major issues surrounding them were identified in the first section of this chapter, "ADL as a Means for Improving Instructional Effectiveness." Here, we deal only with those methodological strategies directly related to achieving widespread dissemination.

We adopted two initial strategies to address our concerns. They were: to include staff from different levels of state educational agencies in the development of ADL and in the design of their respective roles in ADL dissemination, and to have state agencies disseminate ADL to local school districts through turnkey training. Thus, large numbers of interested schools and districts could be reached and supported using the existing state structure.

The emphasis that we placed on developing and testing a research-based dissemination strategy varied over the years with the stage of development of the ADL classroom technology, with the human resources the project had available (e.g., the field test involved most, if not all BSC's resources), and with the amount of attention that our funder, NIE, suggested we give to a dissemination strategy. Prior to late 1980, NIE was not an advocate of the dissemination of ADL. From 1981 to 1983 NIE expressed concern with the process and documentation of ADL dissemination. From 1983 to the present, NIE's concern continued although to a somewhat lesser degree.

Our experience with widespread dissemination, although limited, has caused us to reflect on the following two major issues: Top-down, Hierarchical Dissemination vs. Networking, and Linker as Broker vs. Linker as Trainer and Advocate.

Top-down, Hierarchical Dissemination vs. Networking

The project began in an era when SEAs were asserting their leadership role. State standards and monitoring practices were being established along with school improvement programs. After mandating standards and processes, SEAs and ISAs focused their energy on informing regions and districts of the mandates and monitoring and enforcing implementation. Is it feasible for SEAs and ISAs to also provide substantial technical assistance to regions or districts that fail to attain new standards? Or, should dissemination and the facilitation of change be fostered by the establishment of formal temporary systems or networks as Miles (1964) and others advocate?

BSC's response to these questions was to use the established SEAs and ISAs to carry out dissemination, rather than to create specialized networks of agencies. Our strategy was to involve SEA staff in the development of ADL, and then have them work out a dissemination plan with ISAs. The SEA could train and support ISAs who, in turn, could train and support districts. Although temporary networks may increase trust, communication, and cooperation, we had no reason to believe they would have a significant, sustained impact on practice.

Many of the difficulties which we encountered in establishing and sustaining SEA interest in ADL and in implementing our dissemination strategy in general are documented in Graeber and Helms (1983). Briefly stated, we found at the time we began the development of ADL, SEAs were well positioned to help with dissemination in terms of "spread of information" but less well positioned to support implementation from SEAs to ISAs to districts. Traditionally, SEAs were brokers of information about various programs and were willing to help sponsor sessions on ADL. However, they were less willing to provide the necessary non-traditional support.

In a few instances, SEAs committed the time and resources needed for training and assisting districts as part of the longer range installation/implementation institutes. However, in general, commitment to a long-term training support effort did not seem to mesh well with SEAs' commitments to monitoring myriads of standards and changing priorities. Because to some extent both SEAs and ISAs depend on broad client satisfaction, breadth rather than depth of service seems to be the operative measure of success. (In many ways, this is the previously discussed issue of egalitarianism emerging at the SEA and ISA levels.)

In addition, ISAs may be very loosely coupled to SEAs--yet they derive considerable political, if not fiscal, support from the local districts they serve. All of these conditions make the spread of support from SEAs to ISAs and districts a sensitive and difficult issue.

Do we have any reason to believe that a strategy of dissemination through SEAs and ISAs might work? What incentives are there for SEAs or ISAs to devote time to extensive training and implementation support activities? Should we have concentrated our efforts on creating additional networks?

Our experience with the New Jersey and Maryland state supported training/implementation institutes demonstrates that this dissemination strategy can be successful and is undoubtedly worthy of exploration. As SEA leadership monitoring systems mature, it may be that public demand for intervention and support will make long term, intensive support to local districts more likely. And, if SEAs and ISAs begin to assume some responsibility for outcomes other than compliance, then they may have incentives for carrying out intensive work with low achieving districts. Our experience suggests that incentives must result from some restructuring designed to improve the instructional effectiveness of classrooms.

The advantages of such a "top-down" implementation are clear. Just as a district implementation brings information about resources and procedures needed to support instruction from the classroom to the district level, a state-led implementation brings to the SEA's attention the resources and policies that can help districts support instructional effectiveness. Also, how to avoid parallel teacher evaluation systems is easier to address while adhering to state rather than district mandates. And, top-down implementation is consistent with one of the original arguments for our dissemination strategy--it offers the promist of economical, rapid, and effective ADL implementations.

We do not deny that more intensive networking may have paid off by making more districts aware of ADL's research-based practices. Such networking would certainly have value in spreading knowledge and promoting a flow of information about ADL. The extent to which formal networks serve to bring about actual implementation in other districts is questionable. Who does the training? This is a perplexing issue and is discussed in greater detail below. Who has the desire, time, and skill to provide the training and back-up skills needed to ensure its effectiveness (see Joyce & Showers, 1982)?

Linker as Broker vs. Linker as Trainer and Advocate

Of the SEA, ISA, and district personnel who expressed interest in disseminating ADL to clients in their jurisdiction, the vast majority were reluctant to adopt a linker role in providing training, technical assistance, and support. For example, they wanted to broker the training to someone else, usually BSC personnel. It seemed that this issue, reflected an attitude about the linker's role. They believed the ISA/SEA role should be brokering training and checking on the progress of the implementation, not providing training, consultation, and support to districts throughout the implementation process.

Some of the hesitancy of district staff to assume the training role reflected the notion that no one is a prophet in his or her own land. For example, central office staff below the assistant superintendent level seemed reluctant to train principals whom they considered their "peers" in terms of lines of district authority. At the SEA and ISA levels, it seemed to be commonly accepted that "linkers broker training to experts." In addition, it was frequently difficult to find SEA and ISA personnel who were willing and able to find the approximately 26-30 hours needed for their own training in ADL's technical skills and implementation procedures. Even among SEA and ISA personnel who were available for training and who observed training sessions, some were still unwilling to take a leadership role in training--even when virtually unlimited coaching and support was offered.

We achieved limited insights into this attitude. One sense we had was that training was viewed as not only demanding but also as a "high risk" activity. ISA staff were accustomed to training teachers and perhaps principals, but felt vulnerable training central office staff.

One interesting observation was that SEA and, to some extent, ISA linkers who were accustomed to a monitoring role had difficulty adjusting to the role of helper. They felt that their responsibility as a linking agent was completed after assisting districts with initial planning and developing implementation timelines. They did not feel responsible for monitoring district progress or for providing the sustained assistance research shows is needed (e.g., Fullan, 1981; Hood, 1983). They viewed monitoring as accountability (i.e., check and see if an event occurred as planned). BSC staff devoted a great deal of time to conducting linker training sessions to help linkers provide proactive assistance to districts (i.e., provide intermediate cues, prompts, and supports).

We maintain that, if widespread dissemination of an innovation relies on developers or "experts" to provide training and assistance, the problem of logistics becomes a serious concern. If our experience is typical, there appears to be a local capacity building task at the state and regional levels as well as at the district, building, and classroom levels. The change literature does not support the notion that districts can successfully implement substantial changes without sustained external assistance. If widespread dissemination of demanding innovations is to occur, the support of linkers within regional and local educational agencies seems necessary. And, if a large portion of these linkers are accustomed to a traditional "monitoring" role, they may be unable to adopt a "helping/support" role without receiving the help and support needed for their own role change.

Experience provided repeated cases of successful use of the improvement cycle technology by educators to improve the instructional effectiveness of classrooms. But experience also confirmed our expectation that educators needed help to use the technology and to persist in its use on their own. In low achieving urban districts, at least, educators simply did not meet their responsibilities with reference to local decision making about implementation. BSC linkers often provided needed direction to the local implementation process.

Since BSC linkers are not a long term solution, districts need to develop their own capacity for change and improvement. Too often, districts were prone to overlook the improvement process in the interest of competitive claims on their time. Furthermore, principals and central office staff needed strategies and skills to consolidate and share classroom needs across classes and schools. Also pressing was the need to develop generic change capability in order to exploit the many opportunities for improving instructional effectiveness. Finally, there was the need to create a more positive climate in which development and improvement could proceed smoothly with some hope that once in place, improvements could be sustained.

Three steps were taken to facilitate implementation of the improvement cycle technology: the continuation of superintendent/principal problem solving seminars, installation of the specified roles and functions of the leadership plan described above, and the adoption of one-on-one conferences between teacher and principal and between superintendent and principal to facilitate the flow of information and resources.

Of course, installation of the leadership plan is a large undertaking and, according to some observers, a complex and radical change. However, the plan was added in response to the observed need of the districts and seemed to be the focus and coordination of staff activities. Moreover, this strategy is in line with the research that says large and complex innovations are most likely to affect radical change (Clark et al., 1984).

At this point, it is our position that the power of ADL is the technical capability the program provides to educators to make systematic, objective changes in classrooms pursuant to the findings of research. But this power is limited by the educators' ability to make use of it. If significant improvement of instructional effectiveness is sought, then pedagogical quality must be served. Whether pedagogical quality can be served with less demanding measures is an open question. If a more flexible approach is desired, we agreed with Miles' suggestions that ADL can be made much more susceptible to adaptive use.

Nevertheless, ADL has proved practical and effective for districtwide improvement of instructional effectiveness. Also we believe, that most low achieving school districts lack the organization capabilities and controls to manage an incremental implementation of ADL matched to local needs which also preserves the pedagogical quality of the improvement process. In the final analysis, the requirements for instructional effectiveness are not negotiable. What has highest priority will, in fact, be settled in local practice.

CHAPTER FOUR

CLOSING STATEMENT

In the first three chapters of this report we explained: (1) the commitment of RBS to aid educators to use the findings of research to improve the education they offer to students, and (2) BSC's efforts designed to meet the commitment with respect to instruction and student achievement in the basic skills. We described the rationale for and the outcomes of our collaborative development work with educators: a research-based, problem solving program for improving instructional effectiveness called Achievement Directed Leadership (ADL); a plan for implementing the program; and a strategy to promote its speedy, economical, and effective dissemination. We also shared some of the lessons we have learned. Finally, we discussed some major issues of improvement as we have perceived them from the vantage point of our experience with ADL and with the benefit of Matthew Miles' reflective critique of this work.

There is an old proverb of questionable origin that says education is what we remember once we have forgotten what we were taught. Now it is time to reflect on our work and seek the major messages of this experience.

- Classrooms are the scene where teaching and learning take place, and certain conditions and processes of the classroom are the keys to instructional effectiveness according to research. These conditions and processes can be used to explain many of the differences that distinguish one classroom from another. Universal prescriptions are not generally effective, however, because of the great variability from one classroom to another.

- The logical role of teachers is to arrange conditions and processes of the classroom so that they are optimally conducive to student learning. Research is lending increasing support to this view. Conditions and processes of effectiveness require adjustment according to the purposes of instruction and the nature of the students, but the limits of adjustment that will still permit effectiveness are relatively clear and fixed.

- The arrangement of effective classroom instruction is a logical subject for the preservice training of teachers. Some teachers come into teaching with a basic ability to establish and maintain effective classrooms, and some do not. Of those with this ability, some may not use it to the best advantage, for a variety of reasons.

- When instructional ineffectiveness is attributed to lack of knowledge or skill, inservice training is an appropriate professional development strategy. Some characteristics of effective inservice include: (1) focus on a diagnosed opportunity for improvement, (2) explanation with demonstration, (3) practice with feedback, (4) standards of performance, and especially (5) coaching on the job.

- Improvement of teaching effectiveness also has a human dimension. For instance, teachers who are unable or unwilling to use their competency to sustain instructional effectiveness may be reflecting a belief that their work is unimportant or a sense of alienation from other professionals. As a remedy, some human relations experts advocate a major role for teachers in the design and delivery of their own inservice.

- Some will argue that the organizational structure, lines of responsibility, staffing, and resources of American school districts, especially in urban areas, place the elementary school principal and the secondary school department chair in the strategic position to assure effective inservice (especially on-the-job coaching). This does not, by any means, preclude participation of teachers in shaping their own inservice. Rather, it stresses the fact that administrators have available time and resources for the delivery of effective inservice, including on-the-job coaching.

- Whatever the source of inservice, on-the-job coaching is likely to be the final determinant of effectiveness. Coaches of teachers are intent upon improving the learning of teachers, just as teachers are intent upon improving the learning of students. In both cases, the tasks are to: diagnose opportunities for improvement, match improvement strategies with appropriate opportunities, implement the strategies, evaluate improvement effects, and repeat the prescription, implementation, and evaluation steps, if necessary.

- Some teachers and coaches of teachers come to their task equipped with understandings and images of the conditions of effectiveness and of strategies and techniques for establishing and maintaining effective learning or teaching. However, many teachers and individuals responsible for coaching lack the necesssary knowledge, images, and skills. Fortunately, the findings from research-based innovations can be used to guide teachers and coaches to greater effectiveness. Achievement Directed Leadership (ADL) is a case in point.

- R&D aids for improving performance may well be resisted by users for a variety of reasons. User friendliness of such innovations is likely to come with persistent, appropriate use of the innovation and its reward of effectiveness. Moreover, persistent appropriate use will very likely develop in users the needed understandings, images, intuitions, and skills. At this point, the innovation has served its purpose and should be set aside. Certainly, this is true for ADL.

- The CSO and central office staff are strategically located to assure effective instructional leadership across schools, just as the principal (or department chairs) is strategically situated to assure effective teaching across the classrooms of the school. Whether or not effectiveness is secured will depend largely on the prevalence and quality of instructional leadership and an organizational climate which provides effective support.

- It is reasonable to say that sufficient knowledge and means to provide effective education for all children exist today.

  > We can, whenever and whereever we choose, successfully teach all children whose schooling is of interest to us; we already know more then we need to do that; and whether or not we do it must finally depend on how we feel about the fact that we haven't so far. --Ron Edmonds

- Such being the case, Ratner (1985) argues that:

  > If repeated efforts by school parents, advocacy organizations, individual school administrators and teachers, the media, businesses, politicians, and other interested parties fail to persuade school districts to have their ineffective schools adopt the characteristics of success, the courts may be invoked, but only as a last resort. Voluntary cooperation, if attainable, is likely to produce faster and more certain educational improvements. It remains for the public to demand implementation of

> the duty, the schools to undertake it, and the courts to enforce. (p. 20)

- Nevertheless, it may be that these conditions cannot be established in high need urban school districts and schools. They may have become too large and too complicated through accommodation of many non-educational interests; they may be too plagued by their history of stress and turbulence. It may be time to rethink education in this country--its expectations, structures, and operations.

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Appendix A

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Appendix B

Working Draft of "Achievement Directed Leadership: A Reflective Look"

by Matthew B. Miles

Working Draft

ACHIEVEMENT DIRECTED LEADERSHIP: A REFLECTIVE LOOK

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INTRODUCTION

Achievement Directed Leadership is a program for school improvement that has been conceptualized, developed, field tested and disseminated over the past seven years by the Basic Skills Component of Research for Better Schools. This report is a reflective review by an outside analyst, asked by RBS to carry out the following mission:

> Provide a written review of the BSC project that gives special attention to (1) the soundness of the project vis-a-vis the knowledge base and (2) the project's effectiveness in pursuing its three main objectives (developing a means of instructional improvement, developing strategies for disseminating that means, contributing to knowledge) and in hewing to the knowledge base.

Audiences and Approach

This report is basically written for the BSC staff, as they reflect on their experience and prepare a final report to NIE, and for the RBS Management Team, as they consider the role that the ADL program might play in the lab's work over the next years. As such, it is raw material for use by knowledgeable insiders; whether part or all of it is diffused to larger audiences is a question for RBS to decide.

Accordingly, the approach in this report is direct and straightforward. I will try to avoid telling the audiences what they know already, and will assume familiarity with what BSC has done along the way with the ADL program. In essence, I aim to function as a friendly, knowledgeable critic, standing at the elbow of the BSC staff and the RBS Management Team as they consider what they have accomplished and what lies ahead.

Procedures

I read through the following documents, supplied by the BSC staff:

A. A collaborative research and development effort to improve basic skills instruction in Delaware, New Jersey and Pennsylvania. (BSC, May 11, 1978)
B. Continuation of a program of regional school improvement activities: Basic Skills. (BSC, July 2, 1979)
C. School district utilization of knowledge for improvement of instruction and student achievement in basic skills. (Helms, Huitt, & Graeber, Oct. 19, 1982)
D. Making research-based diagnoses of instructional improvement opportunities---classroom by classroom. (Helms, Sept. 1983)
E. Documentation report: Phase I. The development of Achievement Directed Leadership. (Graeber & Helms, with Caldwell, June 1983)
F. Documentation report: Phase II. A field test of Achievement Directed Leadership. (Biester, Kruse, Beyer, & Heller, March 1983)
G. Technical Proposal. Program to promote quality education in the RBS region: Basic Skills. (BSC, May 18, 1984)
H. Capacity building for a school improvement program, Achievement Directed Leadership. (Graeber, Beyer, & Heller, with French, Helms, Kruse, & Smey-Richman, December 1984)
I. Progress report, fourth quarter FY 1984, Basic Skills Component. (BSC, February 1985)
J. Progress report (draft), first quarter FY 85, Basic Skills Component. (BSC, March 1985)
K. Instructional Improvement News. (Winter 82-83, Winter 83-84, Special Edition)
L. Time spent in learning: Implications from research. Caldwell, Huitt, & Graeber, Elementary School Journal, 1982)
M. Time and instructional improvement. (Huitt & Caldwell, in Anderson, Time and school learning, 1984)

I also reviewed the following training materials:

N. Central Office Staff Handbook
O. Workshops for Central Office Staff
P. Principal's Handbook
Q. Workshops for Principals
R. Teacher's Handbook
S. Workshops for Teachers

For simplicity, I will allude to these documents by the letter given (A....S).

On February 21, 1985, I visited RBS, saw videotapes of training sessions conducted in the Trenton principals' training, and saw a demonstration of the ACHLEVEL and CONFERENCE microcomputer programs. I reviewed two readiness checklists designed for use at the district level. I also had a two-hour discussion with BSC staff members, during which I raised a series of questions about the ADL project that had been generated by my review of the documents.

This report was written after a re-review of the documents and my notes. The knowledgeable audiences for whom this is written will inevitably note my ignorance at a number of points. That should be corrected through feedback to this draft.

Structure of the Report

The report includes the following sections: Page

Introduction.................................... 1
General Remarks................................. 5
ADL as a Means for Instructional Improvement......... 9
Disseminating ADL: Local Implementation............. 19
Disseminating ADL: The Wider Audience............... 29
ADL as a Contribution to Knowledge.................. 35
Concluding Remarks and Advice....................... 37
References.. 39

As the discussion proceeds in each major section after the inital remarks, it is organized as follows:

Strengths and accomplishments: what is especially good about ADL?
Needs for improvement: what are symptoms of difficulty and what problems do they point to?
Relevant knowledge bases: brief syntheses, and comments on how well ADL has used available knowledge.
Suggestions: what might be done next (in preparing final report, improving ADL's features for broader use).

GENERAL REMARKS

The History

ADL has involved over seven years of work, and the expenditure of substantial funds (a 12/82 interview for our national study of effective schools programs noted that $2.5 million had been spent on development). There is no point in my reviewing that history in detail, but some comments may be useful.

The work proceeded, at least as seen in official documents, in a thoughtful, systematic way. The first concept (document A, written in 1978) lays out the problems of school improvement well, and clarifies the key concept (local adaptive planning) through a systematic work cycle. Though some of the structures proposed did not survive (ex: school improvement teams, operations teams, teacher training institutes) and the dissemination approaches were vague, the fact remains that conceptualization, organization, initial development, field testing and refinement proceeded in a well-thought-out, systematic, even single-minded way.

There was also thoughtful reflection along the way. I was impressed in particular by document C (1982), which felt like a "manifesto" outlining the basic approach to supporting school district knowledge utilization.

One other historical note. ADL was developed in only a handful of districts (one in Delaware, one in New Jersey and three in Pennsylvania); field testing was limited to three districts, all with prior developmental experience. That was a natural choice, given BSC's eagerness to do a very thorough job of development work. But it may have restricted and narrowed the development work itself, and the implementation strategies that (sic) followed, and made later dissemination more difficult.

Other General Comments

These comments summarize several themes that will be discussed further below. I offer them here as an overview of some general impressions.

Thoroughness. As just noted, ADL is a prime example of sophisticated development work. It has been done with great care and attention to detail. The development and field testing are well documented. The training materials are very specific and concrete.

ADL's demands. ADL, as an innovation---partly as a result of the thoroughness--is an unusually demanding change effort for its users. It requires strong "front-end" preparation and commitment, induces a good deal of role change in administrators, and asks for strong, continuing teacher effort.

Technical emphasis. ADL is particularly well worked out at the technical level, both in the content and the engaged time components. The amount of supporting information, and the detailed procedures involved in the "leadership plan" are impressive. At the same time, ADL's attention to the social, affective, and organizational issues involved in implementation and dissemination has tended to be thin, sometimes over-rational, and not wholly adequate to the task. (For example, the actual interpersonal skills of carrying out a good teacher-principal conference are not taught or practiced.)

Developer-driven effort. ADL is in effect a product of the classic R&D approach, beginning with conceptualization, and proceeding through knowledge synthesis and translation, design of prototypes, field testing, revision, and wider dissemination. Though there was a strong early effort to engage potential users--both school districts and state departments--in collaborative development, that experience was soon seen as less than wholly fruitful. Though there are exceptions---the readiness checklists, for example---I have the impression that the implementation and dissemination difficulties encountered did little to change the basic strategies being followed. To put it another way, the course of ADL's development, after the initial years, has been driven more by the interests and skills of its developers than by the operating needs of users.

These remarks may have already caused readers to launch counterarguments or justifications in their minds. If so, that is probably useful---up to a point. I do not want to induce defensiveness, but thinking and reflection about the state of ADL and what should happen next. Next I turn to the question of ADL itself.

ADL AS A MEANS FOR INSTRUCTIONAL IMPROVEMENT

Here we are concerned with ADL as a "package," an innovation to be used by schools and districts. I should acknowledge immediately that the boundaries between "ADL as a means...", and the next topic of local implementation are often unclear. ADL, its means for local implementation (and indeed its approach to broader dissemination) are all knitted together. I will not try to be supremely neat; the aim is rather to be sure that the main issues get discussed.

Strengths and Accomplishments

ADL's basic emphasis on achievement makes it an appropriate improvement vehicle for districts functioning poorly on basic skills. The various components come across as well-developed. The "improvement cycle" is clear, and understandable by teachers, principals, and central office people. The four domains of teaching variables are coherent, and to my knowledge carefully derived from the literature. The "leadership plan" places the whole program carefully in the local organizational context. The intent to develop local capacity is also a strength.

The idea of cascading training, beginning with central office and moving to principals and teachers, makes it likely that people at all three levels will be knowledgeable about the program, and share a common language and a set of procedures for improvement; the training materials themselves are unusually well-developed in terms of specificity and detail. The materials in the resource handbook on subject matter and teaching strategies are extensive. The instruments for data collection and data display are thorough, concrete, and clear. Supporting materials (ex: the forms for principal-teacher conferences; the ACHLEVEL computer program) are straightforward, practical, and clear. Generally speaking, the approach is well-structured and comprehensible.

Finally, the botton-line question of whether ADL induces achievement gains is answered positively; the field test results have some ambiguities, but suggest that there is real efficacy of the program.

Needs for Improvement

Here I focus on recurring symptoms of difficulty or problems encountered, sorting them into several areas.

Demandingness. The ADL program asks a great deal from its users. There must be strong front-end commitment and certain organizational "pre-conditions" in place; there is a large preliminary training investment for central office people and principals; the program involves a substantial restructuring of principal and central office roles; the sustained teacher effort is not small.

It is not surprising that the program is far from self-operating; substantial technical assistance (a day a week for the first year, then two days a month minimum for years 2 and 3; H, p. 147) is required not only for initiation and early implementation, but for continuing maintenance energy. Even where that TA is well-done, good implementation is not assured (see J on the high school and middle school experience).

In addition, it appears that ADL is not (unlike, say, Madeline Hunter's program) immediately rewarding to its users. The "aha's" are slower in coming. That means a certain amount of pressure and faith are both required.

Generalizability. The available data usable for comparison purposes are somewhat limited (by grade levels and subject matter), and probably need updating and extension. The amount of data currently available from "process-process" research (C, p. 52) linking teacher behavior to student engaged behaviors is not large. There are few performance data available for principals and central office people (even if it were clear that the same principles apply at levels beyond the classroom).

There is also a question of generalizability of outcomes. The math and reading outcomes (F, p. 78) seem to be operating quite differently. And what does it mean that low-implementing schools (F, pp. 92-93) had the highest levels of student achievement, though less striking gains? So far the data base on ADL achievement effects is small.

Fidelity. It is not wholly clear just what the "core" of the ADL package is, and/or what constitutes its essential features, those which should be jealously guarded during implementation. The BSC staff, in our discussion focused on commitment to the four variables, to a systematic effort to monitor and manage them, to classroom observation, and (perhaps) to the general bureaucratic management of the improvement process. It isn't clear whether such features as principal seminars, differentiated in-service, and superintendent-principal conferences are crucial.

The top-down problem. ADL has been committed from the start to an approach that respects and uses the local hierarchy. That makes sense, but there are associated difficulties. For example, insistence on single-role training tends to block cross-hierarchical team development, usually an important feature in school improvement. (Note that cross-level training sometimes has happened "expediently," and may well be more effective---see H, p. 50).

There may also be over-preoccupation with the superintendent, as the BSC staff acknowledged; that has two consequences. First, there may be insufficient attention to the real problems at the classroom level (note that training is briefest there). Second, the support and assistance skills of central office people may be underplayed (when they were used in New Jersey, the outcome was rather productive, it seemed).

The top-down approach also misses the fact that people at upper levels in any system are actually quite dependent on those below them (a teacher who doesn't want to deliver can easily not deliver, putting the principal in jeopardy; a principal who wants to resist implementation can easily find ways to do that, making the superintendent vulnerable).

There is a sense in which ADL aims at coupling schools far more tightly than they typically are. I felt this most strongly in the walk-through of the CONFERENCE program; as a teacher I think I would have felt deprofessionalized, bound in to a bureaucratic system that was quite unforgiving and allowed me very little slack for discretion and professional judgement. In this sense, there is a distinct possibility that ADL carries negative incentives for teachers, and possibly for principals as well. That issue should be looked at carefully.

Relevant Knowledge Bases

The knowledge bases probably most relevant to the ADL "package" are probably those of the properties of innovations, effective teaching, and to some extent effective schools. In this section, I will rapidly summarize relevant findings,[1] then comment for each on how well ADL has "hewed to the knowledge base."

Properties of innovations. Many studies have focused on the characteristics of innovations--more generally, educational practices. Good recent reviews have been those by Rogers & Shoemaker (1983) and Fullan (1982). The key themes here are:

- Practices tend to be more readily adopted and utilized when they are reasonably clearly formulated, practically designed, not excessively complex, flexible in use, trialable and/or divisible into smaller parts.
- The size or "demandingness" of the innovation for the user--its implementation requirement--is a major factor making for early implementation difficulty.
- The question of the quality of the innovation (its ability to deliver the results claimed) is central to final effects, especially given the amount of adaptation that is normal in most cases.
- The properties of the practice itself are not wholly determinative; successful adoption and use also depend on the local need involved, and the degree to which there is a reasonable fit between the local system and the new practice. We need to think of the innovation-organization pair as the unit of analysis. (Downs & Mohr, 1976).
- "Stand-alone" innovations are very rare; almost all need personal assistance during implementation.

Has RBS "hewed well" to this knowledge base? Yes, in terms of the importance of good design, innovation quality, and the need for assistance. Less so, in facing the serious issue of innovation size, and the issue of matching or fit between the ADL program and the adopting district. ADL is also not very divisible, though it is "trialable" with subsets of teachers (grade levels, subject matter).

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[1] RBS has from the beginning emphasized the research-based nature of its work, and the mission of this paper emphasizes taking a good look at its "hewing to the knowledge base." Therefore, I have looked at knowledge base areas beyond those originally pointed to by the BSC staff in our discussions, and have been rather comprehensive. I am drawing here from a project memo originally prepared by myself for The Network, Inc. Used by permission.

Effective teaching. A major stream of work over the past decade has been empirical studies of teaching behavior, tied to the achievement of stronger student outcomes. The best recent syntheses have been supplied by Stallings (1985) and Doyle (1985). The key themes are:

- The basic variables of "engaged student time," "content coverage," and "student opportunity to learn" (student grouping, tasks, resources, and learning operations) are key for instructional improvement.
- Well-planned lessons and well-managed classrooms are more effective.
- Direct, structured, explicit approaches to instruction achieve better outcomes.
- Improving the conditions of instruction requires attention to variables such as explanation, practice, feedback, and error correction.
- A series of relatively well-developed programs for improving teacher effectiveness exists, including those focusing on effective use of time, classroom management, cooperative learning, individualized instruction, instructional skills, mastery learning, and direct instruction. Most involve an intensive process of self-study, observation, practice, and feedback.
- Efforts to improve teaching cannot be carried out in a vacuum with isolated individuals, but are supported or blocked by features of the school as an organizational setting.

Has ADL used this knowledge base well? Yes, in choice of variables (with little emphasis on "opportunity to learn"), and the basic principles of program design. ADL has probably placed less emphasis than other programs on improving instructional strategies--what the teacher actually does from moment to moment (and not just in terms of student engaged time interventions). ADL has spent little time on school organizational issues, as we shall see in more detail below.

Effective schools. Beginning with the original research of Rutter et al. (1979), Edmonds & Frederiksen (1979), and Brookover & Lezotte (1979), the "effective schools" movement has developed rapidly. The core idea is that empirical analysis of more and less-effective schools could lead to identification of factors that--apparently--lead to increased pupil achievement. Recent reviews (Purkey & Smith, 1982; Bossert, 1985; Corcoran, 1985; Rosenholtz, 1985) conclude that many of the improvement programs based on the core idea are reasonably well-based and coherent, with promise for school improvement.

The key themes in this work include:

- The characteristics of effective schools (those achieving good outcomes with all children) vary somewhat from study to study, but there is fair convergence on several (Bossert, 1985):
  --orderly, humane climate
  --high expectations for all students
  --emphasis on basic skills, and high time on task
  --clear instructional objectives and means for monitoring
  --strong, visible, instructionally-oriented principal

- These characteristics can also be expressed in a more general form, emphasizing properties that make school improvement likely (Clark, Lotto, & Astuto, 1984):
  --shared commitment to educative goals
  --clear, humane behavioral expectations for students and staff
  --action orientation
  --leadership that allows autonomy to staff
  --clear focus on learning, with effective technologies in use
  --positive climate; all roles satisfied
  --active use of organizational slack for experimentation and development

- Effective schools findings are more solid for elementary schools than secondary schools, where problems of size, complex structure, diverse goals and curricula, and the needs of adolescents pose challenges for improvement efforts. (Farrar, Neufeld, & Miles, 1984).

- We know more about the properties of effective schools than about the most effective steps to get there.

- However, as with effective teaching, there are many well-developed programs available for increasing school effectiveness. (Miles, Farrar, & Neufeld, 1983; Miles & Kaufman, 1985). Most involve active self-study, diagnosis and goal-setting, followed by systematic efforts to introduce and stabilize needed changes.

How has ADL done with this knowledge base? There is good use of several effective schools characteristics, notably basic skills emphasis, time on task, instructional objectives, monitoring, and instructionally oriented principal. Climate and expectations findings are not centrally used, however. And the Clark-Lotto-Astuto findings on staff autonomy and organizational slack go in the opposite direction from ADL's emphases. ADL, by and large, has not employed the "corporate" model of local school planning and problem-solving that appears in many ES programs, restricting itself to one-on-one planning between principal and teacher, or principal and superintendent.

Suggestions

Generally speaking, the suggestions made here are aimed in two directions: ideas that might be explored in ADL's final report to NIE, and ideas that deserve some attention if ADL is to be disseminated and used more widely by RBS and its clients. The aim is to be practical, rather than obsessive. ADL, like any program, can be "improved" in dozens of ways. I suggest here some straightforward, less costly ones. The suggestions are based both on the "needs for improvement" and the "knowledge base" sections above.

1. It probably would be useful to make out a "configuration checklist" or practice profile (Loucks & Crandall, 1982) of the ADL package, specifying which aspects of ADL are really at the core, which aspects are desirable, and which are not essential.

2. Look at what aspects of ADL have survived "naturally" in adopting sites. Also look at what teachers (and principals, by the way) find most immediately rewarding about ADL. Use these findings and the checklist to

produce a "leaned down," simplified version that could be experimented with by interested districts. Show districts several alternative versions that they could adopt, on a more or less substantial basis (the divisibility concept).

3. Do a very rapid review of recent studies in teacher effectiveness to see whether additional data exist for enhancing the current stock of comparison charts in ADL. Warn the user, in any case, about generalizability.

4. Think about the issue of "matching" districts and ADL. For what sorts of problems, in what sorts of districts, is ADL the best solution? In this connection, continue using the "readiness checklist" concept.

5. Consider ways in which actively-implementing districts could easily "fold in" available classroom instructional management programs (ex: Hunter, Good) to ADL, to help teachers with instructional skills.

6. Deliberately try cross-role training (central office and principals with superintendent; principals with teachers) as a way of strengthening the program. Consider strengthening the role of central office people as technical assisters. Consider school-based planning teams as a routine part of ADL.

7. Examine the available data on ADL outcomes more carefully, and discuss their meaning for potential adopters.

8. Hold a one or two-day seminar with someone closely familiar with effective schools programs, and ask for advice as to how ADL might be adapted to use the lessons from that domain.

DISSEMINATING ADL: LOCAL IMPLEMENTATION

This discussion focuses on local implementation; what is required for effective carrying out of ADL and its local institutionalization? The following section, not wholly separable, deals with dissemination to the broader population of school districts, both in RBS's region and nationally.

Strengths and Accomplishments

Top-down approach. ADL's implementation, as noted, uses the direct power of the administrative line in school districts. Carried out well, the approach, because of the careful training involved, produces a superintendent and principals who are both knowledgeable about the program and aggressive in furthering it. Teachers are being observed and coached by their direct superiors; principals are held accountable by their superior. At its best, ADL gets information flowing upward regularly through the system, and the district can diagnose and steer the effort productively.

Capacity-building emphasis. ADL is aimed at helping districts to use research findings, diagnose classroom functioning, and implement improvement--and to continue doing this independently through the devices of data collection, conferencing, and in-service. The training materials are technically well developed for each level. Where the training has really enabled people to work and learn together across roles (as in the New Jersey multi-role training and active use of DOI personnel), the results show.

Careful initiation. The readiness checklists, and the care taken to help superintendents and others see very specifically what they are in for, serve well to provide an optimal start situation; districts that are unwilling to do, or to change toward, what is required do not go further, saving energy on everyone's part.

Needs for Improvement

Vulnerability. ADL is vulnerable on several counts during implementation. If a principal or superintendent has weak training skills, the training will be ineffective. If a principal lacks skills of observing, collaborative planning or coaching, the conferences with teachers will be unproductive.

Over-reliance on commitment. ADL implementation rests centrally on the will of administrators to continue. Note that the documentation (ex: I, pp. 4-10; J, pp. 3-12) repeatedly alludes to examples where BSC staff urge an administrator to take X action, get agreement, but then find that no follow-through has taken place. Note also what happened when the New Jersey superintendent (in the best-implemented district) slacked off on his efforts. Delays in schedule and resistance of principals and teachers are frequently noted.

Interference/overlap with other district features. ADL, as a demanding innovation that relies excessively on commitment, seems not to be hardy when other priorities and procedures compete with it for administrative attention. The documentation repeatedly alludes to mismatch or conflict between ADL and ordinary teacher evaluation, for example. The same problem is noted in relation to other improvement efforts (H, p. 123).

Limited organizational improvement effort. ADL correctly understands that certain organizational conditions are essential for starting, and diagnoses these with the readiness checklists. Often technical assistance is required to get a district "up to speed." But that assistance is often rather narrow and focused only on the immediate task at hand ("enough to put the pieces in place"), when it may well be that substantial organizational development effort is required.

The approaches noted in E (p. 115), such as "statement of expectations by the superintendent...sequenced lists of preparations for program events..." do not constitute a real OD program. OD is also more (H, p. 144) than supplying needed skills to individuals.

Note too that some of the desirable start conditions (ex: a sequenced curriculum, alignment with testing program, mastery standards) may require heavy initial intervention before they are in place (ex: H, p. 40).

Partial or truncated implementation strategy. ADL appears to rely on administrative pressure and fidelity emphasis, and under-emphasizes the crucial third element of support. The training materials give almost no attention to the quality of the principal-teacher relationship, to the principal's skill in coaching, and very little attention to the design and delivery of effective in-service.

To put it another way, ADL training tends to be technical, and misses the "human side of the news" (ex: H, pp. 68, 106). The training materials (for example, on participatory supervision) do not really provide opportunities for principals and teachers to practice, get feedback, and improve their actual behavior during conferences, as far as I can see; even the videotapes, judging from the scripts, are technically oriented.

ADL also tends to give less systematic attention to the institutionalization phase of improvement (for example, the prospectus in B, p. 80 contemplates that continuation of ADL will occur just because people value the approach; the discussion of institutionalization in H, pp. 149-50 gives minimal attention to the problem of "building ADL in" and achieving needed organizational structural changes). There are signs that institutionalization is weak (ex: H, p. 86; even in the better institutionalized New Jersey district the view is that continued administrative leadership, support, and monitoring will be needed for some time). Finally, simply decreasing TA (H, p. 119) will not guarantee institutionalization.

Narrow view of schools as organizations. ADL tends to view schools as essentially bureaucratic organizations (ex: H, pp. 17 ff.), usually not considering broader, alternative views (for example, that they are also social systems, professional organizations, or cultures, or arenas for conflict, or "natural" systems with much loose coupling). Some of the barriers to implementation noted (for example, the idea that differentiated in-service violates norms of equity) are not bureaucratic, but cultural ones.

The bureaucratic view is unnecessarily limiting. For example, it means that teachers are not trained as observers, and the strong resources teachers have for giving technical assistance and support to each other go largely unused. (Note too that principals proved very effective in training other principals, H, p. 46.)

A final example is the role of DOI people in New Jersey. Pairing them with principals was an inspired invention; it used support resources well. But note that: (a) this role linkage is not contemplated in the formal ADL model; and (b) the principals ejected the DOI people from their seminars after a couple of meetings, apparently without ADL objection (H, pp. 93, 96).

Relevant Knowledge Bases

The knowledge bases that are most applicable to the implementation domain are those of implementation research, organizational change and development, and capacity-building. As before, a quick summary of each, with an assessment of ADL's use.

Implementation research. Early work on school improvement tended to emphasize an "adoption" paradigm (Miles, 1964; Rogers, 1962; see also Zaltman et al., 1977), stressing innovations as installable parts of the school. As Berman (1981) indicates, we have seen a clear shift in the last decade toward an implementation perspective. The key themes are:

- School change is a user-dominant, contextually-influenced process, typically requiring a period of several years.
- The process involves sub-stages of mobilization, implementation itself, and institutionalization; different strategies are required for each stage.
- Adaptation of both the innovation and the implementing organization are typical.
- Implementation strategies need to be closely keyed to the concerns of participants, which are characteristically for meaning and mastery (Fullan, 1982; Huberman & Miles, 1984.) in the face of the anxiety, overload and uncertainty involved in change.
- Implementation effectiveness normally requires sustained assistance to users during their efforts.
- User change requires learning skills through practice and feedback; it is incremental and developmental.

How well has ADL used this knowledge base? It has been good at using insights about mobilization/initiation, and to some extent implementation, as noted above; knowledge about institutionalization is least well used. The main shortfall here is that ADL has not really been user-oriented, in the sense of attending to affective concerns and providing for repeated practice and feedback, with close concurrent assistance.

Organizational change and development. This stream of work focuses on strategies for changing organizations toward increased effectiveness. The best recent syntheses are van Velzen et al. (1985); Firestone & Corbett, (1984); and Schmuck, Runkel et al. (1984). See also Fullan, Miles, & Taylor (1980). The key themes to note here are:

- Readiness for school change and development is higher when there is reasonable goal agreement, low to moderate stress, and open, inventive communication among staff.

- School organizational change is more likely when there are ambitious goals, strong administrative support (both at school and district level), adequate time resources, protection (buffering) of the change effort, assistance, encouragement and reward for staff, and active efforts to routinize/incorporate the change.

- Effective change programs must emphasize organizational variables, not just individual growth, and focus on task-oriented educational improvement, not just improved organizational functioning.

- Effective change usually involves a blend of pressure, low latitude (high fidelity) and sustained assistance.

- The skills of giving assistance can be learned by internal "change agents"; more-effective programs involve inside-outside partnership.

- Participation/collaboration is less essential at the start of a change process (administrative initiative is more typical), but crucial as implementation proceeds.

- Significant organizational change is labor-intensive, requiring active communication and interaction, for periods up to two years for clear impact, and up to five years for institutionalization.

How well has ADL used this knowledge base? My general conclusion is: only partially. Though it has emphasized variables such as administrative support and time resources, and aimed at building in assistance locally, its use of information about organizational change has not been strong. It has underemphasized the organization as a change target that requires sustained, collaborative attention from people at all levels.

Capacity-building. Much energy has gone into the idea that change efforts need to develop the future coping capacity or ability of systems to deal with future changes. This is not a large literature, but there are some key themes.

- Capacity for change at the local organizational level can be fruitfully viewed as a set of "meta-skills," including local diagnosis, information search, mobilization of action, and monitoring the three preceding skills (Runkel et al., 1978).

- Capacity development is stimulated by motivation, by the presence of first-level problem-solving skills, by support structures and routines, and by a clear cognitive map undergirding all these.

- More generally, as Fullan (1982) notes, "the goal is to get good at change." Organizations need to develop their abilities to know when change (or maintenance) is needed, to plan strategies, to know how to support and modify them along the way, and how to draw lessons from the process.

- Capacity-building also needs to be considered structurally, in terms of expanding and strengthening linkages between local school organizations, assistance-providers, and state educational agencies (Egermeier, 1982) to permit active knowledge dissemination and use.

How has ADL done in this domain? Probably no better or worse than most similar projects. Most improvement projects invoke the idea of capacity-building, but never get very specific about the particular capacities that must be developed, and how to get them. ADL seems to have thought about capacity at the individual skill level, and at the inter-organizational structural level (as in the efforts to involve SEAs and ISAs), but not very clearly about capacity at the local organizational level.

Suggestions

ADL has already made itself some suggestions (H, pp. 139-154). My comments on each of them are as follows.

1. Encouraging a minimum of closely-specified (high-fidelity) components is probably useful.

2. The top-down installation approach needs some attention, I believe.

Specifically, I suggest expanding the training/assistance approach to encourage the use of local resources (central office specialists, helping teachers, peers) in providing at-the-elbow help. Use staff as well as line help, in short. This will mean much more use of multi-role training sessions all through the program. (I was told that multi-role training encourages smaller-scale starts and the superintendent's fobbing off the task to others; against this I must point out that multi-role training encourages relationship and team-building that are essential not only for good assistance but overall ownership).

3. Beginning "at the district's current level of organizational development" is a start, but probably insufficient, based on ADL's actual experience. Some organizational intervention, both at the skill and the structural level, may be needed. I suggest that ADL involve a consultant experienced in organization development to advise on the design of economical OD interventions that could strengthen ADL's implementation, both initially, and as work proceeds.

4. I agree that sustained technical assistance is critical. ADL needs to think through carefully where it will come from, and how local TA capacity can be developed most economically.

5. I also agree that more attention needs to be given to the incorporation of ADL activities into local structures and procedures, with the elimination of competing practices, if institutionalization is to occur. Organizational change is the issue, and it must be addressed directly.

I have a few other suggestions as well.

6. Deepen the training provided to principals and teachers in "participatory supervision." Consider the use of available training materials which do this.

7. Provide some specific design suggestions on the principal seminars.

8. Don't worry about the "differentiated in-service" issue. Districts will do what they can, and if multi-role training has occurred, inventiveness will be more likely.

9. Review material on alternative views of organizational functioning (e.g., Miles & Ekholm, 1985), and (in the final report) discuss ways in which it might be useful in strengthening ADL.

10. Spend some time thinking through carefully exactly what components of ADL you are most concerned that districts institutionalize. Guide this in part by a look at what has actually survived in the field test districts. Then look at the needed organizational changes that institutionalization will require, and design some strategies to help districts get there.

DISSEMINATING ADL: THE WIDER AUDIENCE

This section deals with the problem of diffusing ADL more broadly, both within the RBS region and nationally. Many of the issues discussed under local implementation apply here too, of course.

Strengths and Accomplishments

ADL has thought from the beginning about wider dissemination. While the original approaches envisaged (A, p. 20 ff.) were sometimes vague, they were never limited in scope. The hopes for using established agencies, and developing linkages among SEAs, and ISAs and LEAs were expressed from the start, and expressed in cooperative planning efforts.

The basic idea of turnkey development was well conceived, and shown to be workable both within districts, and with ISAs (E, pp. 100-101). Personnel from at least 15 intermediate service agencies have received training.

The idea of multi-role (and multi-district) training/implementation institutes was well thought through, as is the idea of linker seminars. Both seem to be productive (J, p. 16 ff.) and enable better assistance to implementing districts.

Awareness/interest efforts, including the Instructional Improvement News (begun in 1979, mailing list about 600 in 1984), regional conferences, and the early training/dissemination institutes, led (12/82 interview data) to knowledge of ADL in perhaps 150 districts, with perhaps 3-500 schools having received partial training in ADL components. ADL has also done some training outside its region (Connecticut, Alabama, Texas). The training institutes carried out from 1983 to now have probably expanded the figure above, but it is not clear from the documents what it might now be. The fact that BSC received only nine requests for information during the first quarter of 1985 is not encouraging.

Needs for Improvement

Weak involvement of SEAs and ISAs. Though the hopes for active involvement of SEAs and ISAs were strong, the early experience (E, pp. 59 ff., 152) was not productive. SEAs, suffering from turnover and priority changes, did not develop active planning groups, and did not do much to train ISAs; BSC did the work (1980-81; see E, p. 97). This had improved somewhat in New Jersey with the recent linker training and the involvement of RCSUs (but note that the pattern of turning to other issues by the SEA led to cancellation of nearly half of the seminar sessions: I, p. 15). ISA people initially saw ADL as too labor-intensive, then became preoccupied with other priorities as state support dwindled. On balance, it seems likely that the incentives for SEA and ISA involvement are not very strong, or in any case deserve closer analysis.

Monitoring capability. ADL does not seem, in spite of its hopes to track dissemination carefully (B), to have very detailed-information on the consequences of the early training institutes (E, p. 108) or the work of ISAs in dissemination (E, pp. 94-95), indicating that it was not a "high priority." The same appears true of the recent Delaware institute (I, p. 23). And BSC does not know the district-level fate of "partial adoptions" that resulted from inquiries and institutes.

Relevant Knowledge Bases

Here we focus on several domains: effective dissemination/utilization, large-scale innovation, assistance through linking agents, and networks and network development.

Effective dissemination/utilization. This stream of work is so extensive, beginning with the early massive review of studies by Havelock (1973), that we need to be even more selective than usual. Recent useful reviews are Egermeier (1982), Glaser et al. (1983), Rothman (1980), Havelock (1984a, 1984b). Central themes are:

- Dissemination needs to be conceptualized at several levels: spread or "casting out" of information; exchange (two-way flow between knowledge producers and users); choice (the decision among alternative information or practices); and implementation (actual utilization).

- Effective dissemination requires the "producer" of knowledge to understand the world of the user well, "shortening the distance" to the user, and shaping the message to fit user needs. Once again, utilization is essentially a user-driven process.

- Direct work with users during implementation, including attention to rewards and incentives for the user, is critical.

- Producer-user collaboration often requires the actions of "linking" or "boundary-spanning" persons or organizations mediating between knowledge sources and knowledge users.

- Users are not isolated beings, but embedded in larger social networks which support or retard knowledge use; innovation-specific networks can also be created to aid dissemination/utilization.

- Second-level information about dissemination and utilization itself needs to be actively collected and used during the dissemination process; this may include knowledge syntheses, directories of users, newsletters about implementation efforts, etc.

How well has ADL used this knowledge base? The early conceptualization of dissemination in the project understood the distinctions among spread, exchange, choice, and implementation well; the linker role as developed is also well based. There is some doubt whether ADL has been as "close to the user" (and user networks) as the literature specifies is desirable.

Assistance through linking agents. Since the early formulations of Havelock (1969) and Sieber et al. (1972), another stream of work has emphasized the role of assistance personnel in linking local implementation with a broader body of knowledge and practice, and in facilitating improvement through training, advice, consultation, and support. Recent syntheses of work in this stream (Hood, 1983; Louis, 1981; Fullan, 1981) suggest some important themes:

- Assistance personnel provide substantial help in linking external and internal resources.
- Assistance effectiveness requires moving substantially beyond sheer information-diffusion, skill training or innovation peddling to the support and management of effective problem-solving, school self-review and improvement.
- Assistance must typically be sustained throughout the entire implementation process, not just concentrated at the "front end."
- Scope and intensiveness of assistance make a decisive difference in outcomes.
- Effective assistance is typically embedded in a "support system," often external to the local school, but well linked to it (Louis et al., 1985).

Has ADL used this knowledge? Generally speaking, yes. The role of the linker clearly fits the generalizations above. The feeling, however, is that the linker role needs more intensity in the ADL model.

Large-scale innovation. Much prior work on school improvement considered events at the district or school level, without attending to the difficulties involved when hundreds or thousands of schools are involved in implementing significant changes. Recent work in Europe on this topic (Vandenberghe & van den Berg, 1983; see also van Velzen et al., 1985) has pointed out the problems and possible solutions involved. The key themes:

- Sustained, user-specific assistance is difficult.
- Uniform, standardized approaches tend to be chosen.
- Goals and priorities tend to be complex and often unfocused.
- Work through intermediaries is typically required; typical strategies include network development, "peer multiplier" approaches, use of regional clusters, supportive materials, documentation/information centers, and comprehensive technical assistance systems.

Has ADL used this knowledge? From the start, it was acutely aware of the "logistical" problems that would be involved in wide-scale dissemination. It has not so far made a serious design effort to build intermediary systems, except for its materials; the training/implementation institutes can be seen as a cluster-like approach, and the early effort to use field-test sites as a place to generate linkers can be seen as a "peer multiplier" strategy.

Networks and network development. A final stream of work is that centering on the nature and development of social networks. Good syntheses here are those by Pritchard (1978), Miles (1978), and Devaney (1982). The key themes are:

- Social networks, defined as nodes (people, organizations) connected by links, enable the flow of service, information, affect, influence, and support.
- They may be more or less formalized, focused or dispersed, and show predictable stages of growth and development over time. (Parker, 1977)
- They typically contain specialized roles, including those of innovator, opinion leader, intermediary, facilitator, active or core members, and peripheral members.
- They are crucial in blocking or aiding knowledge use and change, and supporting users, through the actions of people in roles like these.
- Networks for supporting/diffusing change can be developed, extended, and/or strengthened; the prerequisites seem to be reasonable goal clarity, the presence of common interest, and accurate knowledge of existing persons, groups, and networks.
- Supporting conditions for network-building include the development of commitment, frequent opportunities for meetings, internal communication devices (newsletters, working papers, directories, joint projects, and a facilitator role or roles.)
- Effective networks are typically field or user-oriented, with much "lateral" communication (not center-to-periphery); they breed on steady, specific, egalitarian, user-oriented successes with strong personal contact.

Generally speaking, ADL seems to have used knowledge from this domain.

Suggestions

1. Tap "the wisdom of the linker." Hold a two-day conference with linkers who have worked closely with ADL implementation to discuss: (a) the features of ADL which they find aid and block its wider dissemination; (b) strategies they would advise to extend dissemination further; and (c) the skills they use most and/or need further training in.

2. Get closer to the user. Hold a brief work conference with selected principals, teachers (and maybe a few superintendents and central office people) on the topic of what problems ADL is good for solving, what they hate and like about it, what is easy and hard to do, and what their advice would be about wider dissemination.

3. Find an economical way to follow up on and track the partial adoptions and implementations of ADL that have occurred along the way, either through direct inquiries or through orientation or training institutes. Get a rough fix on the position of such users in their state or regional networks.

4. Consider developing a directory of current users that could easily be circulated and updated. That could aid in further marketing of ADL.

5. Think through (for final report) the question of incentives that state departments and ISAs have for supporting ADL, and for becoming turnkey trainers.

6. Consider using Havelock's planning checklists (1984a, 1984b) to think through a possible new dissemination strategy for the future.

ADL AS A CONTRIBUTION TO KNOWLEDGE

My comments here will be brief, because my understanding is that this objective for ADL has never been particularly central.

Beyond the brief synthesis on learning time in Elementary School Journal (L), the chapter in Time and School Learning, and a recent AERA presentation which I have not seen, ADL has published little about its work, or its syntheses of others' work. Its technical reports to NIE are well done, as is the paper on school district knowledge utilization (C). But they have not been diffused very widely, I suspect, though they are probably in ERIC.

What this means is that though ADL may be known to the readers of Instructional Improvement News, and through the new NIE Directory of Effective Schools Programs, as a potential aid to school improvement, little has been done (a) to draw wider lessons for school improvement from the work, or (b) to communicate these lessons to researchers and practitioners involved in school improvement.

Suggestions

1. The time may be ripe for BSC staff, as it moves toward its final report, to write a few reflective articles on the story of ADL, drawing on the documentation, and formulating some lessons on the issues of development, the issues of local implementation, and the issues of wider dissemination that were encountered along the way. This would also be an opportunity to connect with the different facets of the knowledge base that I have explored. Such papers might begin as AERA papers, where there is a good deal of interest in such issues, then head for such journals as Knowledge,

Educational Evaluation and Policy Analysis, and Educational Leadership or Phi Delta Kappan.

2. The production of such papers could be stimulated by holding a couple of short work conferences or seminars to reflect on the ADL experience. Participants could include (a) people from participating districts, (b) other RBS staff with strong interest in educational improvement, (c) other researchers in the domain of educational improvement.

CONCLUDING REMARKS AND ADVICE

The readers of this report may well be feeling overloaded, beset with dozens of well-intentioned suggestions that seem overambitious, misguided, or both. I have the following general comments.

The Need for Reflection

Regardless of whether the suggestions just made above are followed, I think there is every reason for ADL staff to take some time for a good, thoughtful look at what they have done and what it means. Many of the program documents, particularly the progress reports to NIE, have, naturally, a justificatory tone. The basic approaches being taken are never discussed skeptically, and only incremental changes are typically proposed. You owe yourself the chance to step back and think about ADL, rather than just explaining again why it is such a good program. That inquiring stance will serve you well in the final report, I believe.

Marketability

Would ADL be snapped up by the hundreds of school districts now seeking better ways to improve? The drift of much preceding analysis in this report is: probably not, unless some careful attention is given to such matters as incentives for users, the demandingness of the program, the typical trouble spots that pop up during implementation, deeper attention to social, interpersonal and organizational issues, methods for turnkeying the assistance required, and so on.

Dissemination Planning

I encourage, after the reflection advised above, some careful attention to two things. First, the basic wider dissemination strategies that will be required for ADL to become a self-supporting (economically) product. I suggest use of the planning materials developed by Havelock (1984a, 1984b) to guide the development of such strategies. Think about this first. It will mean some careful attention to a range of issues: user realities, incentives, networks, the right channels, intermediary organizations, etc.

A Thinner, Better ADL

Then and only then, consider how to produce a leaned-down, and more implementation-oriented version of ADL. Resist your natural tendencies to refine or "improve" ADL more and more, until you have thought through the dissemination strategies involved. It may help to involve some external people in the redesign process, so that you do not simply retain your present prejudices and beliefs. It may also help to perform a small thought experiment: if I were starting a consulting firm to market ADL, and had no more development and support money from RBS, what changes would I make?

Be Mindful of Your Accomplishments

Finally, keep in mind that ADL has been a noble enterprise, with much ingenuity, energy and productivity evident along the way. There are plenty of superficial, unhelpful efforts at school improvement around. Yours is not one of them. You did good. Use that knowledge to fuel whatever next steps you take.

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Appendix C

Listing of Reports, Papers, and Presentations Documenting the Development, Testing, and Implementation Experiences of Achievement Directed Leadership

Listing of Reports, Papers, and Presentations Documenting the Development, Testing, and Implementation Experiences of Achievement Directed Leadership

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Appendix D

Summary of Student Achievement Data in the Pennsylvania, New Jersey, and Delaware Field Test Districts
1981-1985

Table 1
Student Achievement Scores and Gains/Losses: 1981-1985
PA School District
School A (Field Test School)

Reading

	NCE's					Gain Scores			
	81	82	83	84	85	81/ 82	82/ 83	83/ 84	84/ 85
1	72	76	81	73	81				
2	64	80	82	71	78				+5
3	58	64	72	77	75			-10	+4
4	59	63	69	72	73		+6	-5	-4
5	67	61	68	71	76	+8	-8	0	+4
6	65	66				0	+5	+2	
						+5	+5		
						+2			
						-1			
Mean	64	69	74	73	77	+5	+5	-1	+4

Math

	NCE's					Gain Scores			
	81	82	83	84	85	81/ 82	82/ 83	83/ 84	84/ 85
1	63	79	82	75	76				
2	63	81	81	85	76				+1
3	70	69	78	76	86			+3	+1
4	66	75	78	80	81		+2	-5	+5
5	72	71	82	79	83	+18	-3	+2	+3
6	75	82				+6	+9	+1	
						+5	+7		
						+5			
						+10			
Mean	67	75	80	79	80	+8	+5	-1	+1

Note: Scores represent Science Research Associates (SRA) Achievement Test results as normal curve equivalents (NCEs), and may be compared for different groups of students in same grades, 1981-85 (across horizontal rows) or for roughly same groups of students as they move through grade levels, 1981-85 (down the diagonal rows). Gains only computed for diagonal analysis, i.e., for same groups of students as they move through grade levels. Schools means computed for grades 1-5.

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Table 1 (con't)
School B (Field Test School)

Reading

	NCE's					Gain Scores			
	81	82	83	84	85	81/ 82	82/ 83	83/ 84	84/ 85
1	64	64	62	70	70				
2	51	59	56	59	73				+3
3	59	52	55	59	69			-3	+10
4	46	58	55	60	58		-8	+3	-1
5	58	53	58	59	67	-5	-4	+5	+7
6	60	55				+1	+3	+4	
						-1	0		
						+7			
						-3			
Mean	56	57	57	61	67	+1	0	+4	+6

Math

	NCE's					Gain Scores			
	81	82	83	84	85	81/ 82	82/ 83	83/ 84	84/ 85
1	72	75	68	72	78				
2	60	66	71	71	87				+15
3	59	59	61	62	74			+3	+3
4	47	56	58	65	58		-4	-9	-4
5	61	59	61	66	74	-6	-5	+4	+9
6	63	59				-1	-1	+8	
						-3	+5		
						+12			
						-2			
Mean	60	63	64	67	74	+3	+1	+3	+7

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Table 1 (con't)
School C (Field Test School)

Reading

	NCE's					Gain Scores			
	81	82	83	84	85	81/82	82/83	83/84	84/85
1	56	48	51	64	65				
2	62	64	65	62	62				-2
3	53	58	61	59	60			+11	-2
4	48	57	59	65	71		+17	-6	+12
5	61	52	66	61	70	+8	-3	+4	+5
6	55	57				-4	+1	+2	
						+4	+9		
						+4			
						-4			
Mean	56	56	60	62	66	0	+4	+2	+4

Math

	NCE's					Gain Scores			
	81	82	83	84	85	81/82	82/83	83/84	84/85
1	48	48	61	77	68				
2	55	68	65	68	66				-11
3	50	57	55	53	62			+7	-6
4	42	54	53	65	70		+17	-12	+17
5	57	50	72	71	73	+20	-13	+10	+8
6	55	58				+2	-4	+18	
						+4	+18		
						+8			
						+1			
Mean	50	55	61	67	68	+5	+6	+6	+1

Table 1 (con't)
School D

Reading

	NCE's					Gain Scores			
	81	82	83	84	85	81/82	82/83	83/84	84/85
1	60	70	69	72	66				
2	57	59	69	63	66				-6
3	58	64	59	74	68			-6	+5
4	56	65	66	59	65		-1	+5	-9
5	60	58	64	67	62	-1	0	0	+3
6	53	57				+7	+2	+1	
						+2			
						-3			
Mean	58	63	65	67	65	+5	+2	+2	-2

Math

	NCE's					Gain Scores			
	81	82	83	84	85	81/82	82/83	83/84	84/85
1	68	76	66	69	69				
2	54	64	76	75	61				-8
3	65	76	73	80	77			+9	+2
4	66	70	70	71	69		0	+4	-11
5	64	74	67	69	70	-4	0	-2	-1
6	70	61				+22	-6	-1	
						+5	-3		
						+8			
						-3			
Mean	63	72	70	73	69	+9	-2	+3	-4

Table 1 (con't)
School E

Reading

	NCE's					Gain Scores			
	81	82	83	84	85	81/ 82	82/ 83	83/ 84	84/ 85
1	30	36	45	38	44				
2	31	40	37	41	38				0
3	23	32	39	37	43			−4	+2
4	27	29	36	46	48		+1	0	+11
5	40	39	33	42	39	+10	−1	+7	−7
6	33	32				+1	+4	+6	
						+6	+4		
						+12			
						−8			
Mean	30	35	38	41	42	+5	+3	+3	+1

Math

	NCE's					Gain Scores			
	81	82	83	84	85	81/ 82	82/ 83	83/ 84	84/ 85
1	27	31	48	50	48				
2	35	37	42	45	55				+5
3	24	36	39	39	53			−3	+8
4	26	35	43	48	49			−3	+10
5	37	44	43	52	43	+10	+2	+9	−5
6	39	28				+ 1	+7	+9	
						+10	+8		
						+18			
						−9			
Mean	30	37	43	47	50	+7	+6	+4	+3

Table 1 (con't)
School F (Field Test School)

Reading

	NCE's					Gain Scores			
	81	82	83	84	85	81/ 82	82/ 83	83/ 84	84/ 85
1	67	59	59	75	59				
2	60	62	60	60	71				-4
3	55	60	65	64	57			+1	-3
4	62	54	61	66	65		+1	+4	+1
5	68	66	59	68	68	-5	+3	+1	+2
6	56	66				0	+1	+7	
						-1	+5		
						+4			
						-2			
Mean	62	60	61	67	64	-2	+1	+6	-3

Math

	NCE's					Gain Scores			
	81	82	83	84	85	81/ 82	82/ 83	83/ 84	84/ 85
1	68	65	57	77	68				
2	66	60	59	67	75				-2
3	60	69	69	69	55			+10	-12
4	70	66	62	66	67		-6	+10	-2
5	73	75	70	69	74	-8	+9	-3	+8
6	60	73				+3	-7	+7	
						+6	+4		
						+5			
						0			
Mean	67	67	63	70	68	0	-4	+7	-2

Table 1 (con't)
School G

Reading

	NCE's					Gain Scores			
	81	82	83	84	85	81/82	82/83	83/84	84/85
1	43	42	52	49	54				
2	42	44	50	52	53				+4
3	49	51	49	56	56			0	+4
4	29	51	53	53	51		+8	+6	-5
5	45	52	51	60	60	+1	+5	+4	+7
6	38	46				+9	+2	+7	
						+2	0		
						+23			
Mean	42	48	51	54	55	+6	+3	+3	+1

Math

	NCE's					Gain Scores			
	81	82	83	84	85	81/82	82/83	83/84	84/85
1	47	46	56	50	54				
2	41	40	49	58	57				+7
3	51	52	47	56	58			+2	0
4	33	51	50	52	63		+3	+7	-3
5	49	56	55	68	64	-7	+7	+5	+12
6	40	52				+11	-2	+18	
						0	+4		
						+23			
						+3			
Mean	44	49	51	57	57	+5	+2	+6	0

11/5/85

Table 1 (con't)
School H (Field Test School)

Reading

	NCE's					Gain Scores			
	81	82	83	84	85	81/82	82/83	83/84	84/85
1	47	47	50	56	50				
2	44	50	56	56	58				+2
3	49	43	63	58	55			+6	-1
4	51	44	52	64	65		+9	+2	+7
5	48	49	56	57	69	+3	+13	+1	+5
6	51	49				-1	+9	+5	
						-5	+12		
						-2			
						+1			
Mean	48	47	55	58	59	-1	+8	+3	+1

Math

	NCE's					Gain Scores			
	81	82	83	84	85	81/82	82/83	83/84	84/85
1	46	66	57	68	61				
2	40	52	60	51	69				+1
3	41	41	58	50	55			-6	+4
4	34	56	56	56	67		-6	-10	+17
5	42	50	63	66	74	+6	+6	-2	+18
6	50	55				+1	+15	+10	
						+15	+7		
						+16			
						+13			
Mean	41	53	59	58	65	+12	+6	-1	+7

Table 1 (cont'd)
School I

Reading

	NCE's					Gain Scores			
	81	82	83	84	85	81/82	82/83	83/84	84/85
1	58	57	59	63	60				
2	73	71	76	73	79				+16
3	59	61	65	66	64			+14	-9
4	60	55	60	64	66		+19	-10	0
5	62	61	59	70	70	+12	-1	+10	+6
6						-4	+4		
						+1			
Mean	62	61	64	67	68	-1	+3	+3	+1

Math

	NCE's					Gain Scores			
	81	82	83	84	85	81/82	82/83	83/84	84/85
1	61	67	65	69	68				
2	85	84	83	87	86				+17
3	64	65	64	69	69			+22	-18
4	56	59	64	60	66		+16	-13	-3
5	66	64	67	76	75	-20	-1	+12	+15
6						-5	+8		
						+8			
Mean	66	68	69	72	73	+2	+1	+3	+1

Table 1 (con't)
School J

Reading

	NCE's					Gain Scores			
	81	82	83	84	85	81/82	82/83	83/84	84/85
1	58	62	70	78	76				
2	66	69	73	68	68				-10
3	72	74	67	75	69			-2	+1
4	64	62	68	data missing	71		+11	+2	-4
5	68	71	67		66	+11	-2		
6	68	72				+8	-6		
						-10	+5		
						+7			
						+4			
Mean	66	68	69	?	70	+2	+1	?	?

Math

	NCE's					Gain Scores			
	81	82	83	84	85	81/82	82/83	83/84	84/85
1	59	62	87	85	81				
2	75	69	72	62	65				-20
3	76	74	73	79	66			-25	+4
4	63	62	70	data missing	81		+10	+7	+2
5	75	71	75		71	+10	+4		
6	78	72				-1	-4		
						+14	+13		
						+8			
						+3			
Mean	70	68	75	?	73	-2	+7	?	?

Table 1 (con't)
School K

Reading

	NCE's					Gain Scores			
	81	82	83	84	85	81/ 82	82/ 83	83/ 84	84/ 85
1	27	37	50	39	46				
2	42	40	45	50	44				+5
3	47	52	51	46	55			0	+5
4	49	47	51	53	50		+8	+1	+4
5	53	49	50	55	51	+13	+11	+2	-2
6	34	51				+10	-1	+4	
						0	+3		
						0			
						-2			
Mean	44	45	49	49	49	+1	+4	0	0

Math

	NCE's					Gain Scores			
	81	82	83	84	85	81/ 82	82/ 83	83/ 84	84/ 85
1	29	41	49	43	55				
2	38	43	52	51	55				+12
3	45	46	49	52	65			+2	+14
4	49	49	51	55	56		+9	0	+4
5	62	53	53	62	63	+14	+6	+6	+8
6	37	52				+8	+5	+11	
						+4	+4		
						+4			
						+10			
Mean	45	46	51	53	59	+1	+5	+2	+6

Table 1 (con't)
School L

Reading

	NCE's					Gain Scores			
	81	82	83	84	85	81/ 82	82/ 83	83/ 84	84/ 85
1	44	41	43	47	36				
2	30	38	31	37	43				-4
3	40	47	31	31	42			-6	+5
4	34	34	33	33	32		-10	0	+1
5	42	39	41	42	43	-6	-7	+2	+10
6	34	35				+17	-14	+9	
						-6	7		
						+5			
						-7			
Mean	38	40	36	38	39	+2	-4	+2	+1

Math

	NCE's					Gain Scores			
	81	82	83	84	85	81/ 82	82/ 83	83/ 84	84/ 85
1	47	37	49	50	48				
2	38	45	30	53	57				+7
3	37	40	35	33	47			+4	-6
4	33	40	37	34	31		-7	+3	-2
5	46	53	50	48	44	-2	-10	-1	+10
6	34	41				+2	-3	+11	
						+3	+10		
						+20			
						-5			
Mean	40	43	40	44	45	+3	-3	+4	+1

Table 1 (con't)
School M

Reading

	NCE's					Gain Scores			
	81	82	83	84	85	81/82	82/83	83/84	84/85
1	60	63	63	75	72				
2	60	58	67	67	73				−2
3	50	57	58	63	61				−6
4	51	52	61	50	64		+4	−5	+1
5	61	53	54	62	60	−2	0	−8	+10
6	53	57				−3	+4	+1	
						+2	+2		
						−2			
						−4			
Mean	56	57	61	63	66	+1	+4	+2	+3

Math

	NCE's					Gain Scores			
	81	82	83	84	85	81/82	82/83	83/84	84/85
1	57	62	72	79	81				
2	66	70	80	78	78				−1
3	52	63	64	73	65			+6	−13
4	45	48	58	56	75		+18	−7	+2
5	63	57	60	70	70	+13	+6	−8	+14
6	62	63				−3	−5	+12	
						−4	+12		
						+12			
						0			
Mean	57	60	67	71	74	+3	+7	+4	+3

Table 1 (con't)
School N

Reading

	NCE's					Gain Scores			
	81	82	83	84	85	81/82	82/83	83/84	84/85
1	44	47	63	70	C				
2	44	48	53	60	L				
3	35	38	61	62	O			-3	
4	14	47	52	64	S		+6	+9	
5	56	55	60	59	E	+4	+13	+3	
6					D	-6	+14	+7	
						+12	+13		
						+41			
Mean	39	47	58	63	-	+8	+11	+5	

Math

	NCE's					Gain Scores			
	81	82	83	84	85	81/82	82/83	83/84	84/85
1	53.	50	70	76	C				
2	45	51	60	65	L				
3	55	46	72	67	O			-5	
4	21	55	54	72	S		+10	+7	
5	56	65	73	68	E	-2	+21	0	
6					D	+1	+8	+14	
						0	+18		
						+44			
Mean	46	53	66	70	-	+7	+13	+4	

Table 1 (con't)
School O

Reading

	NCE's					Gain Scores			
	81	82	83	84	85	81/ 82	82/ 83	83/ 84	84/ 85
1	66	76	65	67	66				
2	66	61	64	62	71				+4
3	66	66	67	75	72			-3	+10
4	66	62	68	67	71		-12	11	-4
5	66	69	67	73	75	-5	+6	0	+8
6	68	63				0	2	5	
						-4	5		
						3			
						-3			
Mean	66	67	66	69	71	+1	-1	+3	+2

Math

	NCE's					Gain Scores			
	81	82	83	84	85	81/ 82	82/ 83	83/ 84	84/ 85
1	64	71	69	68	70				
2	66	56	63	64	73				+5
3	71	77	78	85	85			-5	+21
4	71	70	74	71	74		-8	22	-11
5	67	69	72	81	82	-8	22	-7	+11
6	77	70				11	-3	7	
						-1	2		
						-2			
						3			
Mean	68	69	71	74	77	+1	+2	+3	+3

Table 1 (con't)
School P

Reading

	NCE's					Gain Scores			
	81	82	83	84	85	81/ 82	82/ 83	83/ 84	84/ 85
1	51	56	65	57	55				
2	43	62	62	60	58				+1
3	45	59	61	68	62			-5	+2
4	54	57	48	63	56		6	4	-12
5	54	62	63	62	62	11	-1	2	-1
6	59	61				16	-11	14	
						12	6		
						8			
						7			
Mean	49	59	60	62	59	+10	+1	+2	-3

Math

	NCE's					Gain Scores			
	81	82	83	84	85	81/ 82	82/ 83	83/ 84	84/ 85
1	44	57	57	58	62				
2	45	52	65	68	71				+13
3	44	63	70	66	60			11	-8
4	53	50	55	62	60		8	1	-6
5	49	58	64	61	62	8	18	-8	0
6	58	64				18	-8	6	
						6	4		
						5			
						15			
Mean	47	56	62	63	63	+9	+6	+1	0

Table 1 (con't)
School Q

Reading

	NCE's					Gain Scores			
	81	82	83	84	85	81/82	82/83	83/84	84/85
1	23	48	60	56	56				
2	55	44	57	62	64				+8
3	41	31	52	59	67			2	+5
4	35	54	56	54	64		9	2	+5
5	40	60	55	58	52	21	8	2	-2
6	47	45				-21	25	2	
						13	1		
						25			
						5			
Mean	39	47	56	58	61	+8	+9	+2	+3

Math

	NCE's					Gain Scores			
	81	82	83	84	85	81/82	82/83	83/84	84/85
1	18	45	56	52	59				
2	47	42	50	46	57				+5
3	46	41	53	66	64			-10	+18
4	49	58	58	54	67		5	16	+1
5	41	68	61	67	56	24	11	1	+2
6	32	48				-6	17	9	
						12	3		
						19			
						7			
Mean	40	51	56	57	61	+11	+5	+1	+4

Table 2
Student Achievement Scores and Gains/Losses: 1981-1985
MJ School District
School A

Reading

Grade	Year					Diagonal Gains			
	81	82	83	84	85	81/ 82	82/ 83	83/ 84	84/ 85
1	54	58	47	46	55	-	-	-	-
2	53	57	51	56	51	-	-	-	+5
3	44	50	52	51	61	-	-	+9	+5
4	45	46	50	42	51	-	-7	0	0
5	43	55	55	54	60	+3	-5	-10	+18
6	39	48	53	52	53	-3	0	+4	-1
7	-	-	51	50	55	+2	+9	-3	+3
8	-	-	-	47	58	+10	-2	-3	+8
						+5	+3	-4	
						-	-	-	
Mean	46	52	51	50	55	+6	-1	-1	+5

Math

Grade	Year					Diagonal Gains			
	81	82	83	84	85	81/ 82	82/ 83	83/ 84	84/ 85
1	57	62	53	52	62	-	-	-	-
2	58	62	61	62	57	-	-	-	+5
3	52	60	60	59	64	-	-	+9	+2
4	54	61	61	50	57	-	-1	-2	-2
5	57	67	72	69	68	+5	-2	-10	+18
6	49	61	66	67	65	+2	+1	+8	-4
7	-	-	64	58	65	+9	+11	-5	-2
8	-	-	-	54	61	+13	-1	-8	+3
						+4	+5	-10	
						-	-	-	
Mean	55	62	62	60	62	+7	0	-2	+2

Note: Scores represent California Achievement Test results as normal curve equivalents (NCEs), and may be compared for different groups of students in same grades, 1981-85 (across horizontal rows) or for roughly same groups of students as they move through grade levels, 1981-85 (down the diagonal rows). Gains only computed for diagonal analysis, i.e., for same groups of students as they move through grade levels. School means computed for grades 1-6 in elementary schools, 9-10 in high school.

Table 2 (con't)
School B

Reading

Grade	Year					Diagonal Gains			
	81	82	83	84	85	81/ 82	82/ 83	83/ 84	84/ 85
1	62	64	70	68	67	-	-	-	-
2	57	61	63	62	68	-	-	-	0
3	49	49	57	53	66	-	-	-8	+4
4	61	56	56	52	57	-	-1	-10	+4
5	60	56	55	55	56	-1	-4	-5	+4
6	54	57	65	63	64	-8	+7	-1	+9
7	-	66	65	62	62	+7	-1	+8	-1
8	-	-	56	58	58	-5	+9	-3	-4
						-3	+8	-7	
						+12	-10	-	
Mean	57	57	61	59	63	0	+4	-2	+4

Math

Grade	Year					Diagonal Gains			
	81	82	83	84	85	81/ 82	82/ 83	83/ 84	84/ 85
1	57	60	73	75	71	-	-	-	-
2	65	60	64	65	70	-	-	-	-5
3	59	58	60	64	71	-	-	-8	+6
4	70	67	66	59	74	-	+4	0	+10
5	71	66	65	68	64	+3	0	-1	+5
6	63	77	83	83	80	-7	+8	+2	+12
7	-	77	80	80	82	+8	-2	+18	-1
8	-	-	64	70	63	-4	+17	-3	-17
						+6	+3	-10	
						+14	-13	-	
Mean	64	65	69	69	72	+1	+4	0	+3

Table 2 (con't)

School C

Reading

Grade	Year 81	82	83	84	85	Diagonal Gains 81/82	82/83	83/84	84/85
1	48	53	55	59	54	-	-	-	-
2	47	50	56	61	54	-	-	-	-5
3	51	51	55	54	56	-	-	+6	-5
4	43	45	48	53	51	-	+3	-2	-3
5	46	49	55	50	62	+2	+5	-2	+9
6	44	45	53	54	55	+4	-3	+2	+5
7	-	-	51	61	57	-6	+10	-1	+3
8	-	-	-	53	64	+6	+4	+8	+3
						-1	+6	+2	
						-	-	-	
Mean	47	49	54	55	55	+2	+5	+1	0

Math

Grade	Year 81	82	83	84	85	Diagonal Gains 81/82	82/83	83/84	84/85
1	53	61	58	59	61	-	-	-	-
2	52	57	61	59	60	-	-	-	+1
3	58	63	60	60	63	-	-	+1	+4
4	53	54	59	58	64	-	0	-1	+4
5	60	58	59	62	74	+4	+3	-2	+16
6	55	58	63	58	65	+11	-4	+3	+3
7	-	-	62	69	61	-4	+5	-1	+3
8	-	-	-	55	73	+5	+5	+6	+4
						-2	+4	-7	
						-	-	-	
Mean	55	59	60	59	65	+4	+1	-1	+6

7/30/85

Table 2 (cont'd)

School D

Reading

Grade	Year 81	82	83	84	85	Diagonal Gains 81/82	82/83	83/84	84/85
1	51	53	59	48	52	-	-	-	-
2	53	48	59	64	52	-	-	-	+4
3	45	51	50	56	60	-	-	+5	-4
4	46	51	52	54	54	-	+6	-3	-2
5	47	48	47	56	52	-3	+2	+4	-2
6	42	46	44	50	55	-2	+1	+4	-1
7	-	49	43	46	48	+6	-4	+3	-2
8	-	-	60	57	54	+4	-4	+2	+8
						-1	-3	+14	
						+7	+11	-	
Mean	47	50	52	55	54	+3	+2	+3	-1

Math

Grade	Year 81	82	83	84	85	Diagonal Gains 81/82	82/83	83/84	84/85
1	53	57	59	54	54	-	-	-	-
2	62	62	67	71	57	-	-	-	+1
3	58	57	57	58	67	-	-	+12	-4
4	53	64	66	62	65	-	+10	-9	+7
5	56	59	58	63	56	+9	-5	+5	-6
6	58	53	53	62	68	-5	+9	-3	+5
7	-	60	57	60	62	+6	-6	+4	0
8	-	-	59	63	62	+6	-6	+7	+2
						-3	+4	+6	
						+2	-1	-	
Mean	57	59	60	62	61	+2	+1	+2	-1

Table 2 (con't)

School E

Reading

Grade	Year 81	82	83	84	85	Diagonal Gains 81/82	82/83	83/84	84/85
1	53	51	58	58	53	-	-	-	-
2	53	41	46	52	47	-	-	-	-11
3	47	51	45	52	63	-	-	-6	+11
4	39	46	49	51	47	-	-5	+6	-5
5	40	40	48	51	53	-12	+4	+6	+2
6	40	45	42	42	52	-2	-2	+2	+1
7	-	39	48	47	51	-1	+2	-6	+9
8	-	-	45	49	48	+1	+2	+5	+1
						+5	+3	+1	
						-1	+6	-	
Mean	45	46	48	51	53	+1	+2	+3	+2

Math

Grade	Year 81	82	83	84	85	Diagonal Gains 81/82	82/83	83/84	84/85
1	59	58	63	53	55	-	-	-	-
2	55	42	47	53	52	-	-	-	-1
3	54	57	53	55	67	-	-	-10	+14
4	44	53	58	57	54	-	-11	+8	-1
5	45	49	53	59	58	-17	+11	+4	+1
6	55	48	50	51	66	+2	+1	+1	+7
7	-	48	55	54	62	-1	0	-2	+11
8	-	-	52	52	54	+5	+1	+4	0
						+3	+7	-3	
						-7	+4	-	
Mean	52	51	54	55	59	-1	+3	+1	+4

Table 2 (con't)

School F

Reading

Grade	Year					Diagonal Gains			
	81	82	83	84	85	81/ 82	82/ 83	83/ 84	84/ 85
1	62	66	67	67	75	-	-	-	-
2	41	49	57	50	53	-	-	-	-14
3	38	40	56	43	48	-	-	-17	-2
4	41	46	48	45	47	-	-9	-14	+4
5	40	47	54	45	44	-13	+7	-11	-1
6	39	38	50	47	49	-1	+8	-3	+4
7	-	43	49	43	49	+8	+8	-7	+2
8	-	-	50	49	42	+6	+3	-7	-1
						-2	+11	0	
						+4	+7	-	
Mean	44	48	55	50	53	+4	+7	-5	+3

Math

Grade	Year					Diagonal Gains			
	81	82	83	84	85	81/ 82	82/ 83	83/ 84	84/ 85
1	64	68	68	69	78	-	-	-	-
2	48	55	55	52	59	-	-	-	-10
3	46	49	65	57	65	-	-	-16	+13
4	48	54	55	53	52	-	-13	+2	-5
5	50	58	61	63	57	-9	+10	-12	+4
6	55	55	66	63	64	+1	+6	+8	+1
7	-	56	58	65	56	+8	+7	+2	-7
	-	-	59	56	53	+10	+8	-11	-2
						+5	+3	-2	
						+1	+3	-	
Mean	52	57	62	60	63	+5	+5	-2	+3

Table 2 (con't)

School G

Reading

Grade	Year 81	82	83	84	85	Diagonal Gains 81/82	82/83	83/84	84/85
1	55	44	C			-			
2	42	61	L			-			
3	47	64	O			-			
4	41	58	S			-			
5	46	44	E			+6			
6	47	53	D			+22			
7	-	-				+11			
8	-	-				+3			
						+7			
						-			
Mean	46	54				+8			

Math

Grade	Year 81	82	83	84	85	Diagonal Gains 81/82	82/83	83/84	84/85
1	56	50	C			-			
2	45	70	L			-			
3	54	65	O			-			
4	47	61	S			-			
5	56	52	E			+14			
6	56	65	D			+20			
7	-	-				+7			
8	-	-				+5			
						+9			
						-			
Mean	52	61				+9			

Table 2 (con't)

School H

Reading

Grade	Year					Diagonal Gains			
	81	82	83	84	85	81/82	82/83	83/84	84/85
1	54	60	56	53	59	-	-	-	-
2	50	57	58	62	64	-	-	-	+11
3	54	51	64	61	73	-	-	+6	+11
4	54	50	56	53	63	-	-2	+3	+2
5	60	59	49	56	62	+3	+7	-11	+9
6	56	58	56	54	61	+1	+5	0	+5
7	-	56	61	64	55	-4	-1	+5	+1
8	-	-	55	50	59	+5	-3	+8	-5
						-2	+3	-11	
						0	-1	-	
Mean	55	56	57	57	64	+1	+1	0	+7

Math

Grade	Year					Diagonal Gains			
	81	82	83	84	85	81/82	82/83	83/84	84/85
1	54	62	65	63	61	-	-	-	-
2	48	55	58	67	71	-	-	-	+8
3	62	59	67	57	76	-	-	+2	+9
4	58	59	56	58	68	-	-4	-1	+11
5	61	59	57	58	65	+1	+12	-9	+7
6	64	63	60	61	66	+11	-3	+2	+8
7	-	67	74	71	69	-3	-2	+4	+8
8	-	-	61	60	61	+1	+1	+11	-10
						+2	+11	-14	
						+3	-6	-	
Mean	58	60	61	61	68	+2	+1	0	+7

Table 2 (con't)

School I

Reading

Grade	Year 81	82	83	84	85	Diagonal Gains 81/82	82/83	83/84	84/85
1	-	-	52	43	58	-	-	-	-
2	-	-	48	49	57	-	-	-	+14
3	-	-	62	52	54	-	-	-3	+5
4	-	-	52	53	54	-	-	+4	+2
5	-	-	51	47	58	-	-	-9	+5
6	-	-	52	53	58	-	-	-5	+11
7	40	48	44	49	52	-	-	+2	-1
8	39	42	49	48	49	-	-	-3	0
						-	-	+4	
						-	+1	-	
						+2	-	-	
Mean	-	-	53	50	57	-	-	-3	+7

Math

Grade	Year 81	82	83	84	85	Diagonal Gains 81/82	82/83	83/84	84/85
1	-	-	55	53	57	-	-	-	-
2	-	-	55	57	67	-	-	-	+14
3	-	-	66	60	63	-	-	+2	+6
4	-	-	60	58	62	-	-	+5	+2
5	-	-	60	57	62	-	-	-8	+4
6	-	-	60	56	63	-	-	-3	+6
7	44	53	54	58	63	-	-	-4	+7
8	43	46	53	57	58	-	-	-2	0
						-	-	+3	
						-	0	-	
						+2	-	-	
Mean	-	-	59	57	62	-	-	-2	+5

Table 2 (con't)

Reading

Grade	Year					Diagonal Gains			
	81	82	83	84	85	81/82	82/83	83/84	84/85
9	-	-	46	49	49	-	-	-	-
10	-	-	41	43	46	-	-	-	-3
11	-	-	-	44	44	-	-	-3	+1
12	-	-	-	46	43	-	-	+3	-1
Mean	-	-	44	46	48	-	-	+2	+2

Math

Grade	Year					Diagonal Gains			
	81	82	83	84	85	81/82	82/83	83/84	84/85
9	-	-	49	53	52	-	-	-	-
10	-	-	46	48	50	-	-	-	-3
11	-	-	-	49	49	-	-	-1	+1
12	-	-	-	48	48	-	-	+3	-1
Mean	-	-	48	51	51	-	-	+3	0

Table 3
Student Achievement Scores[a] and Gains/Losses: 1978-1985
Delaware School District

	Test Date								Gain/Loss						
Grade	Fall 1978	Spring 1979	Spring 1980	Spring 1981	Spring 1982	Spring 1983	Spring 1984	Spring 1985	78/ 79	79/ 80	80/ 81	81/ 82	82/ 83	83/ 84	84/ 85
1	49	71	61	65	65	64	--	--	+22	-10	+4	0	-1	--	--
2	52	64	67	65	65	67	66	62	+12	+ 3	-2	0	+2	-1	-4
3	52	62	58	63	63	64	62	66	+10	- 4	+5	0	+1	-2	+4
4	52	61	63	64	65	65	66	66	+ 9	+ 2	+1	+1	0	+1	0
5	56	65	60	62	69	69	62	62	+ 9	- 5	+2	+7	0	-7	0
Mean	52	65	62	64	65	66	64	64	+13	- 3	+2	+1	+1	-2	0

Note: 1978-83 scores represent California Achievement Test (Total Battery) results as normal curve equivalents (NCEs) for schools A & B; 1984-85 scores represent California Test of Basic Skills (Total Battery) results as NCEs for schools A & B. Except for fall 1978 & spring 1979, data represent the performance of different groups of students in each successive year.